

FIG. 1

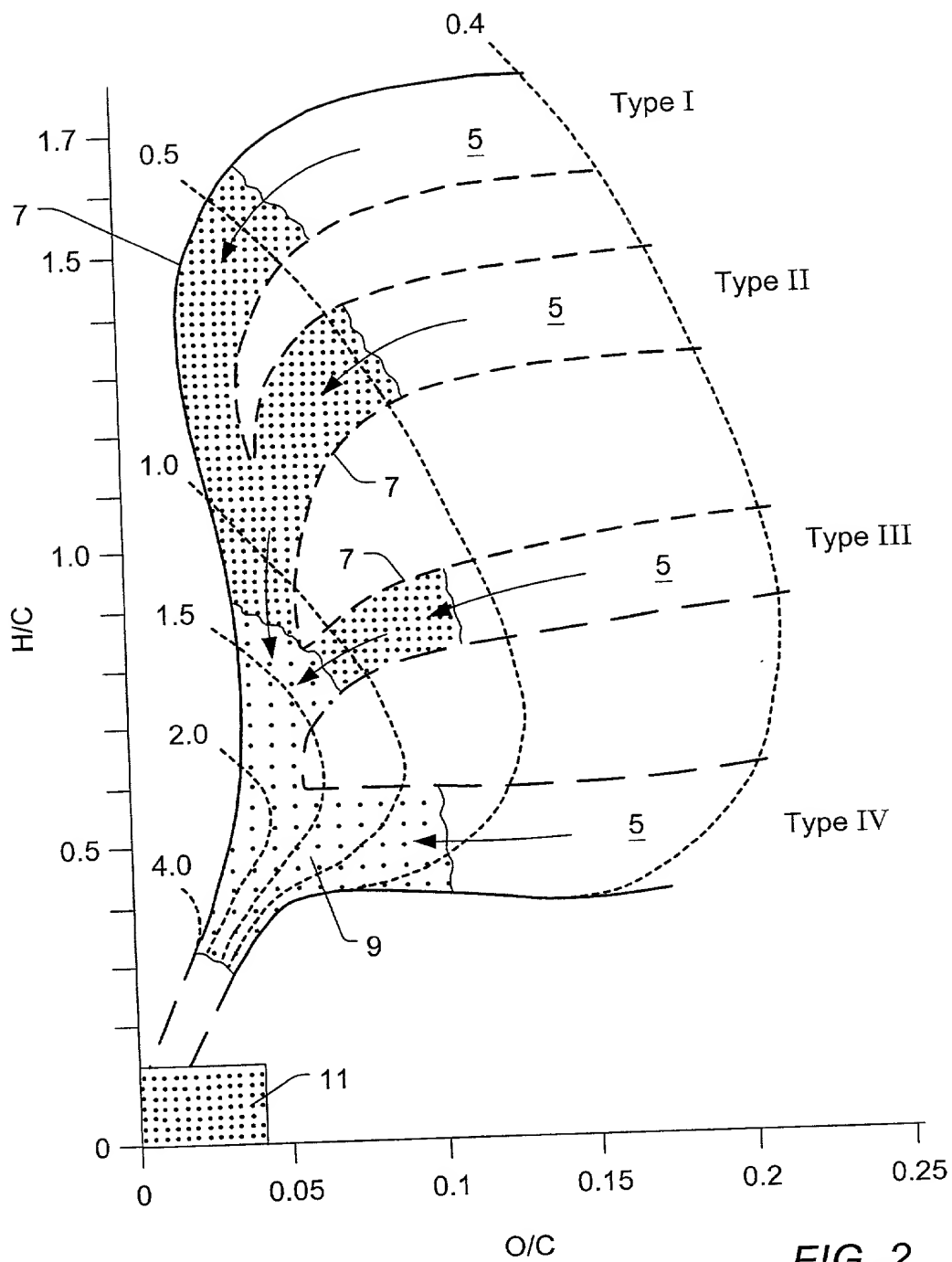
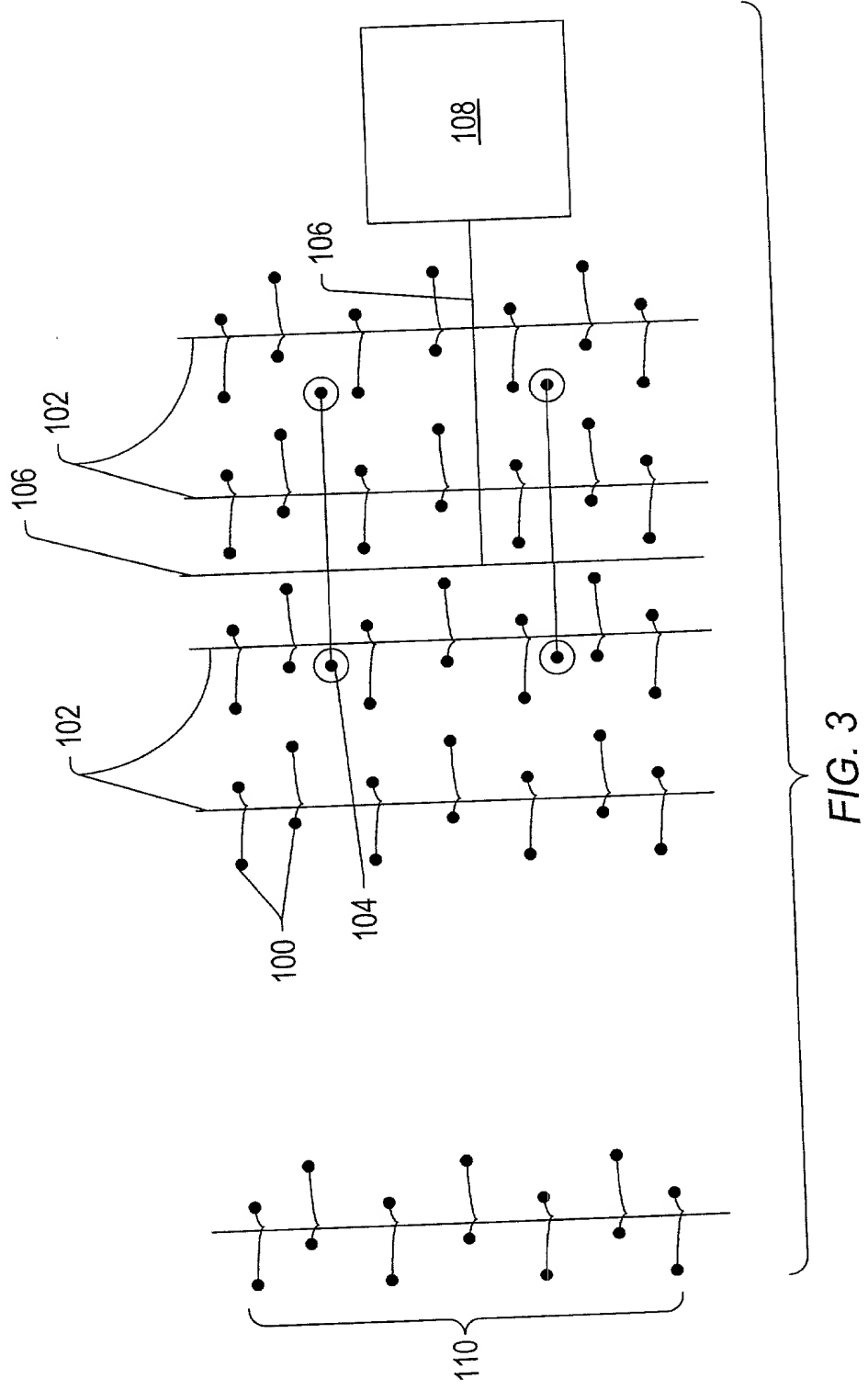


FIG. 2



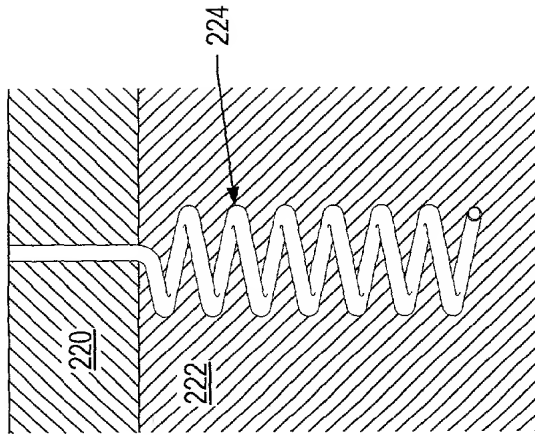


FIG. 3a

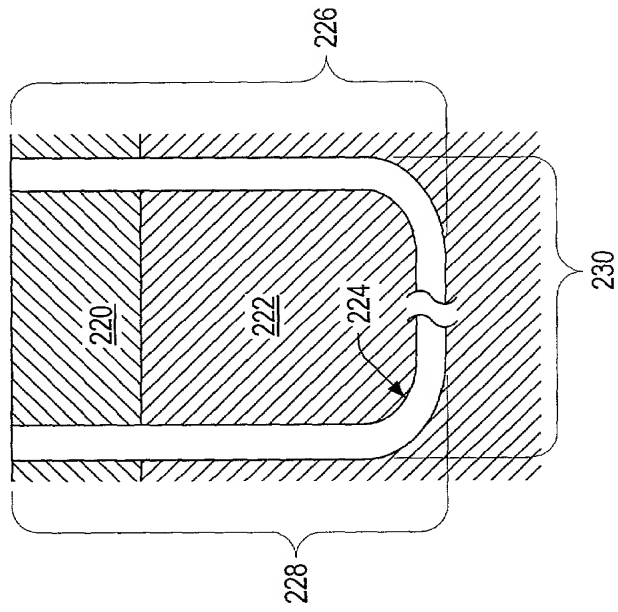


FIG. 3b

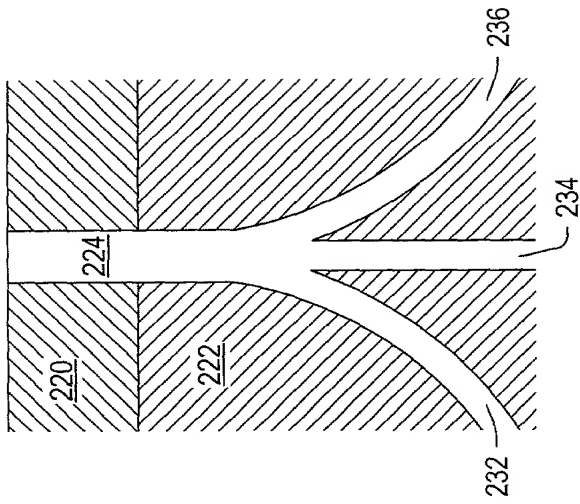


FIG. 3c

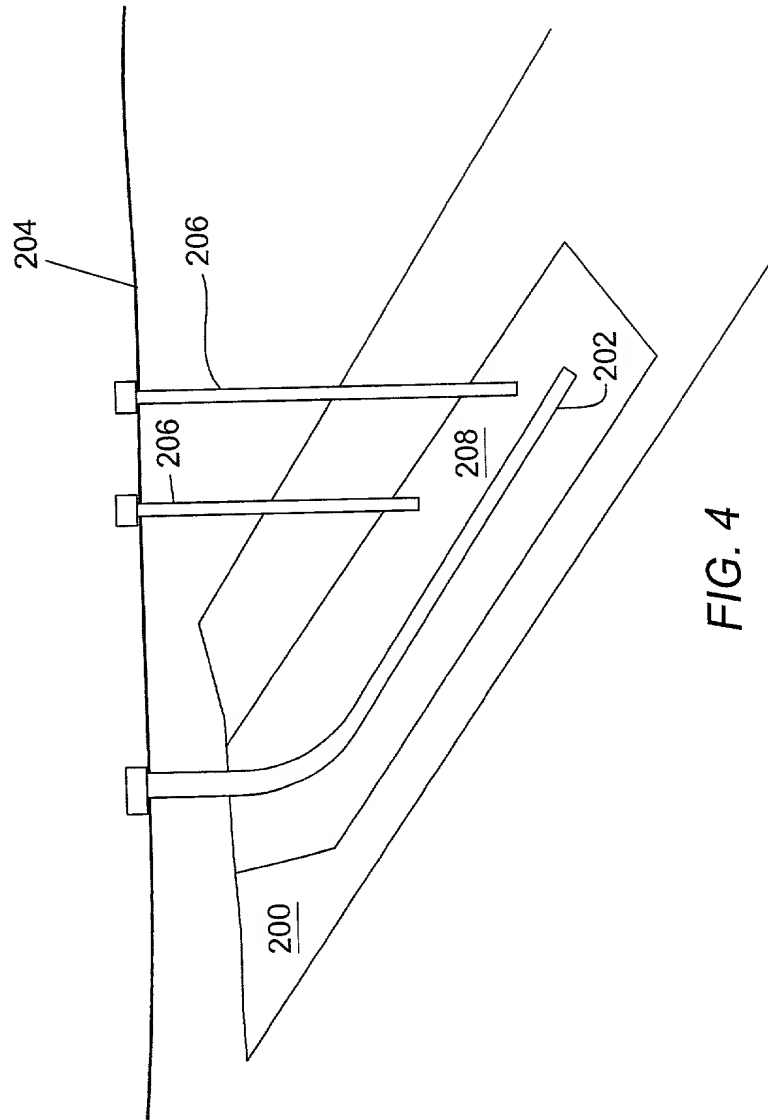
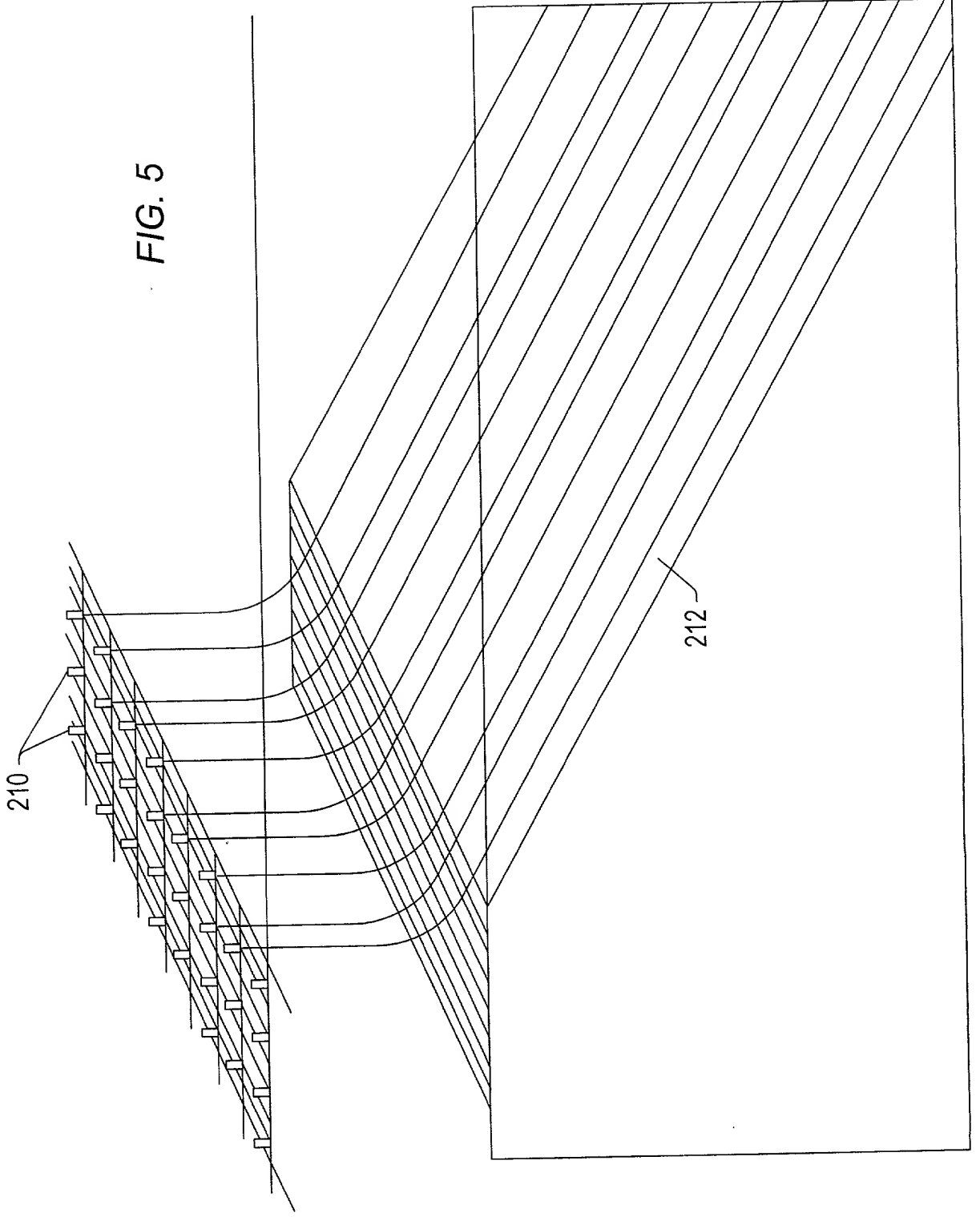


FIG. 4



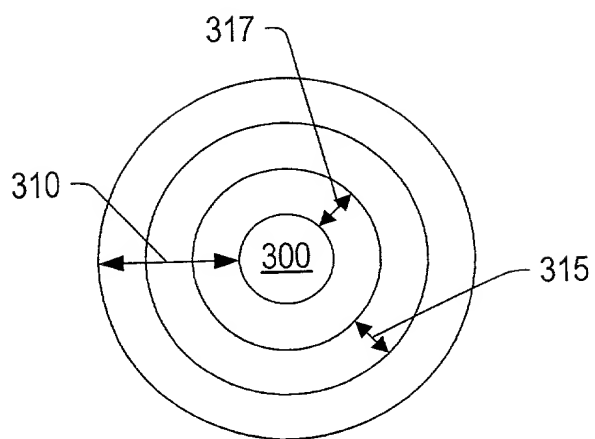


FIG. 6

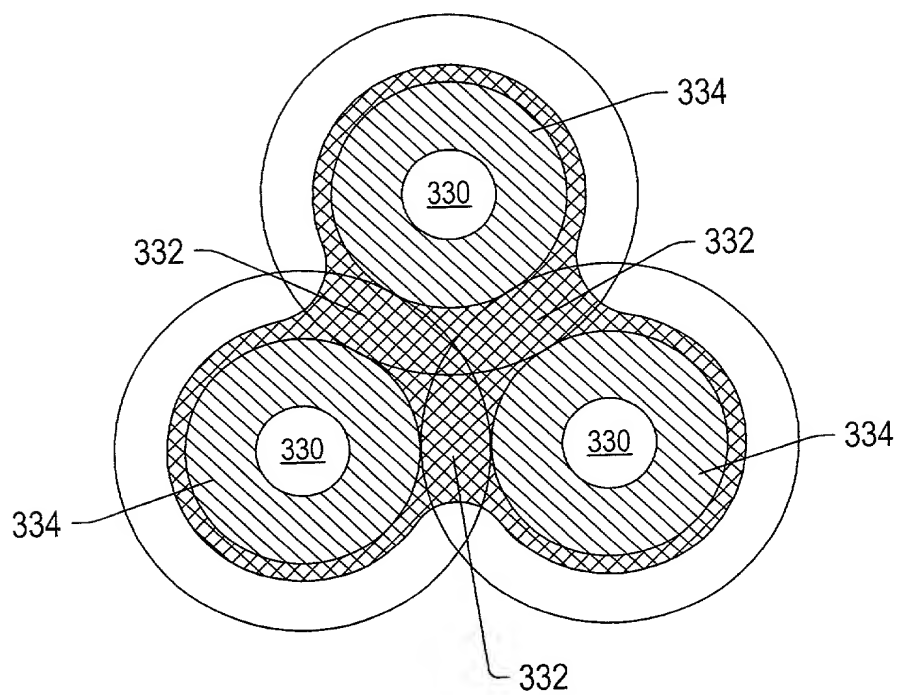
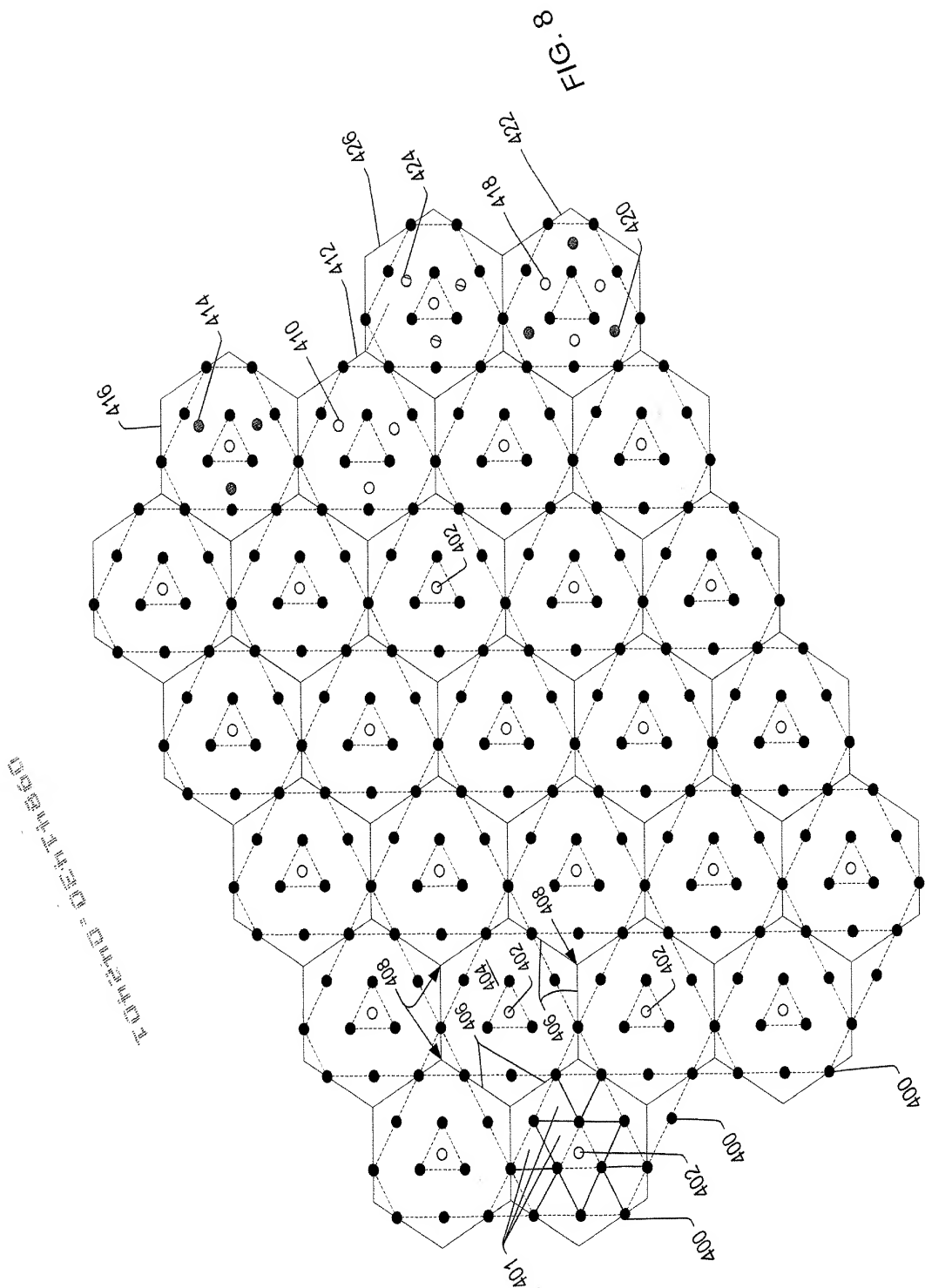


FIG. 7





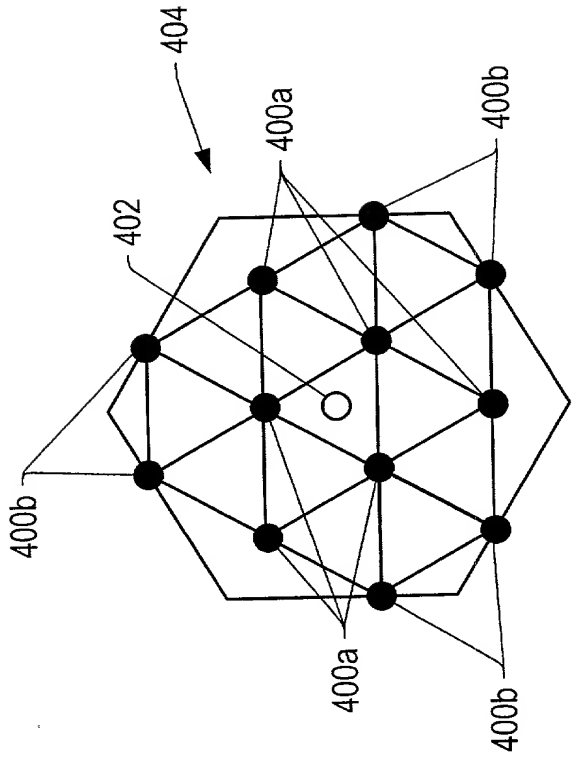


FIG. 9

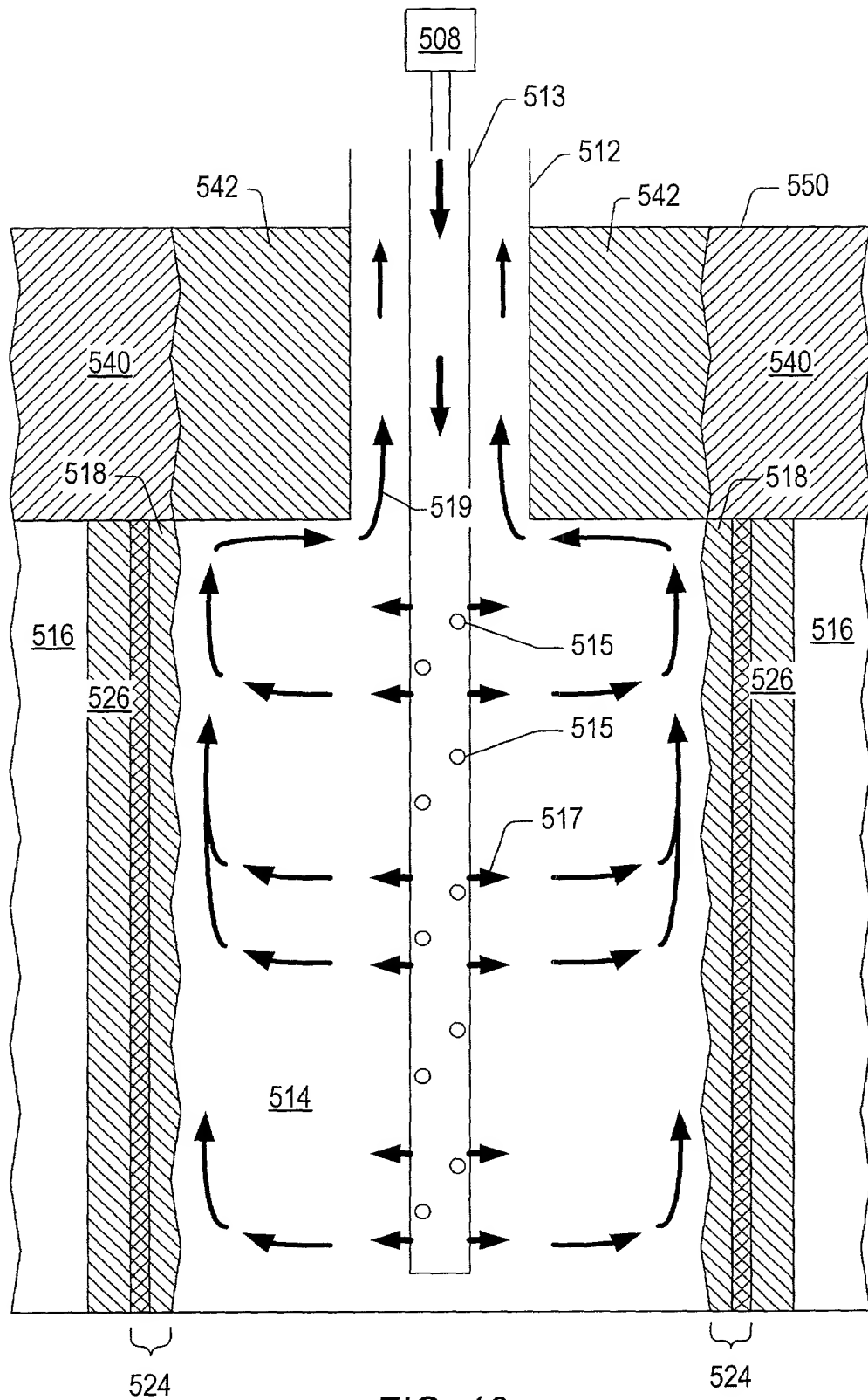


FIG. 10

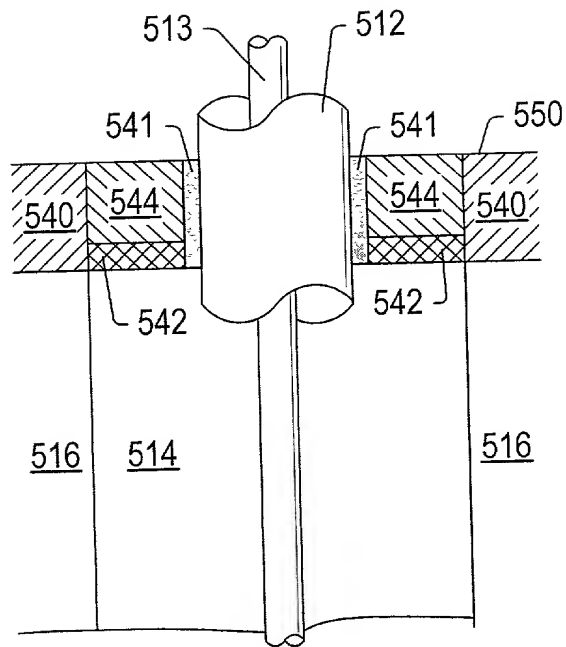


FIG. 11

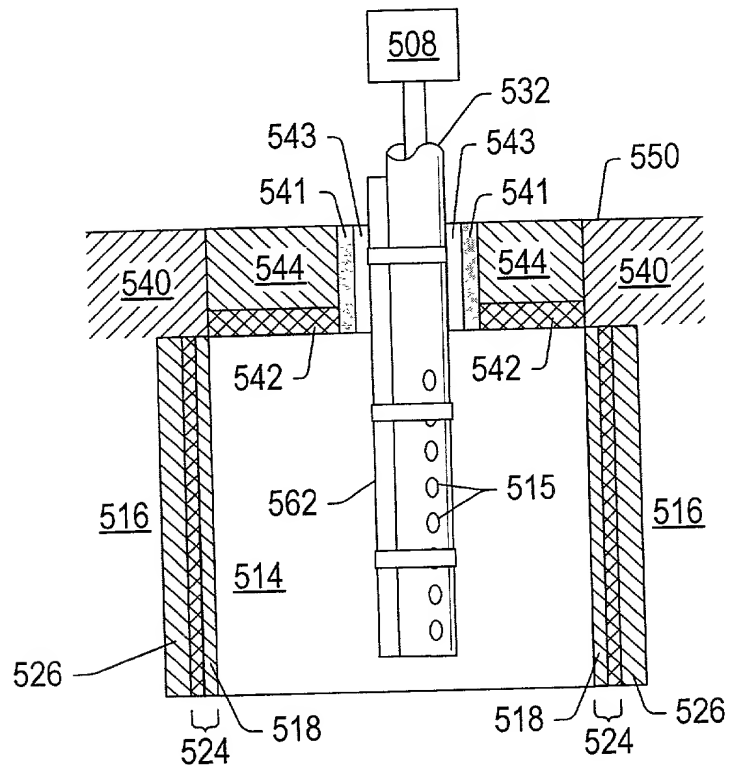


FIG. 12

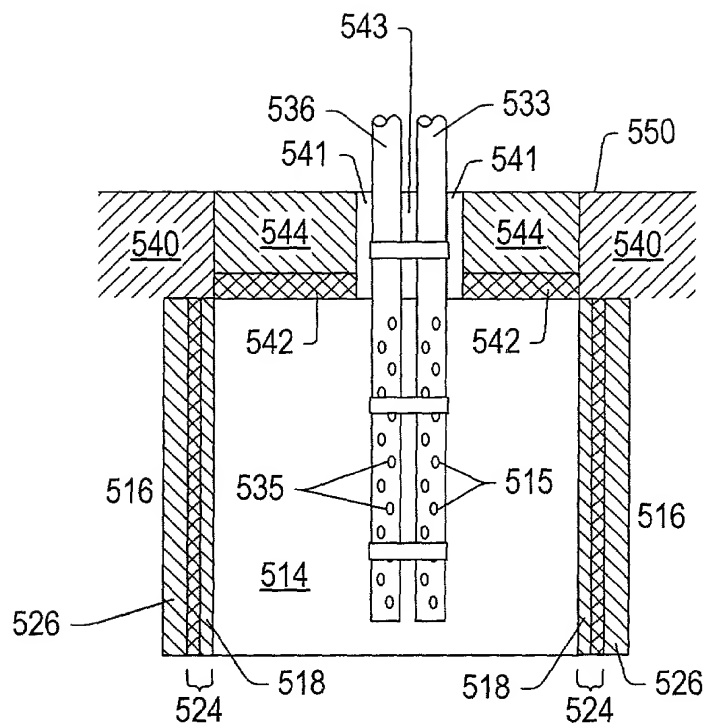


FIG. 13

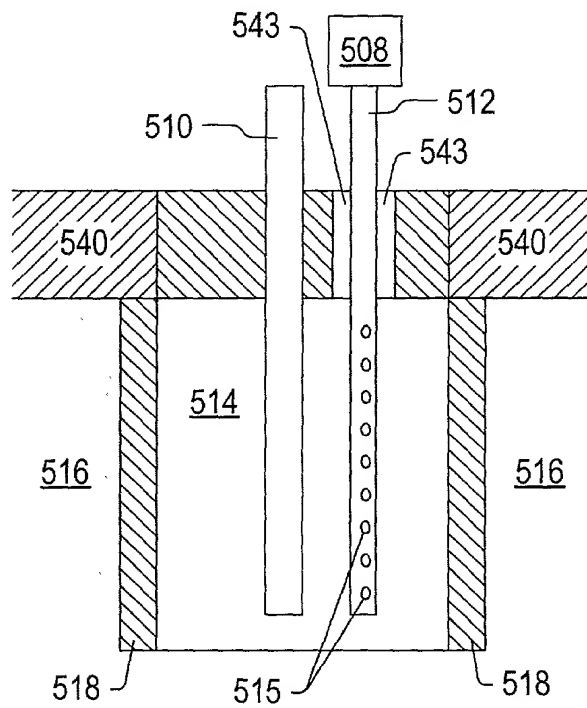


FIG. 14

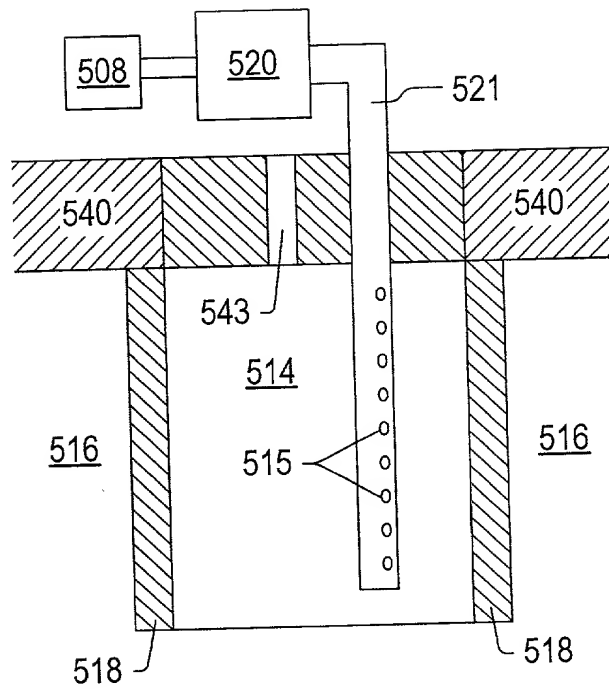


FIG. 15

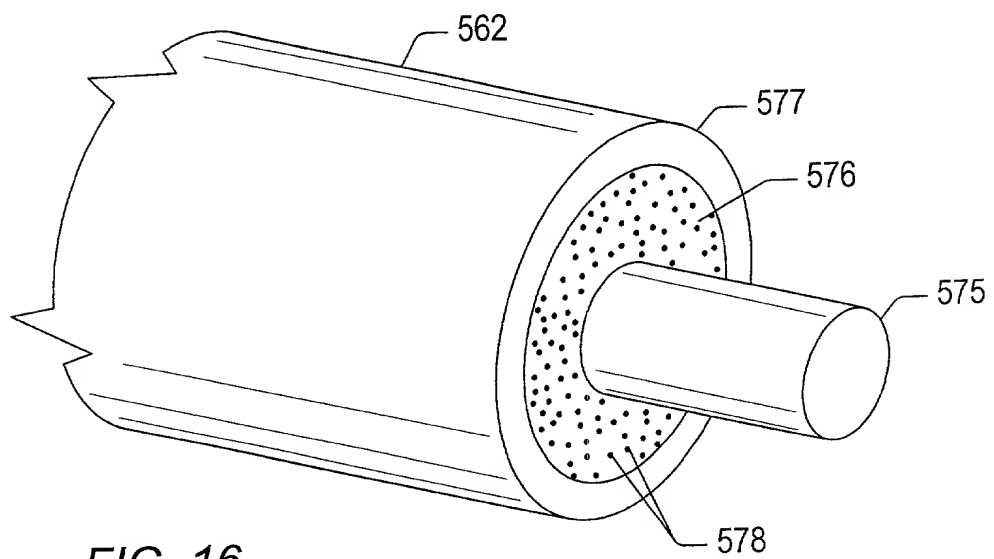


FIG. 16

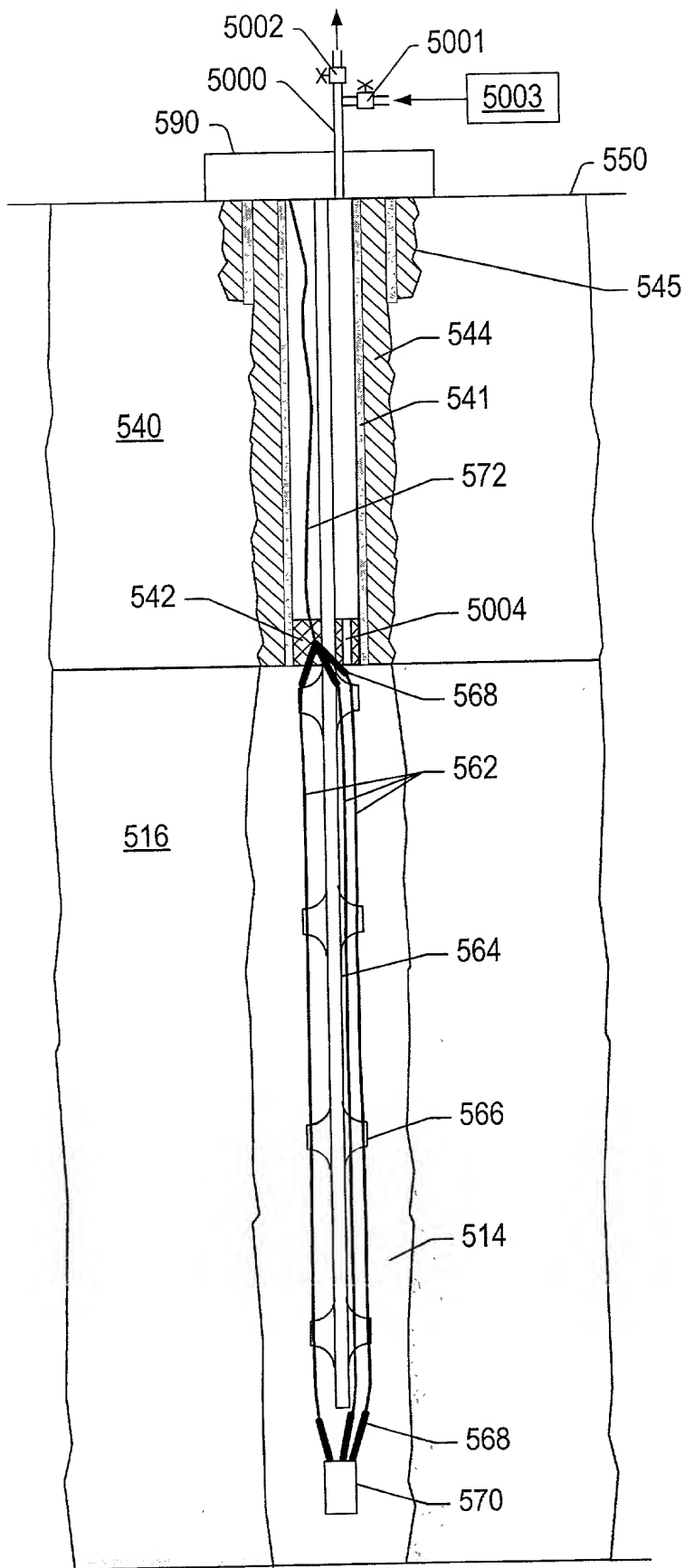


FIG. 17

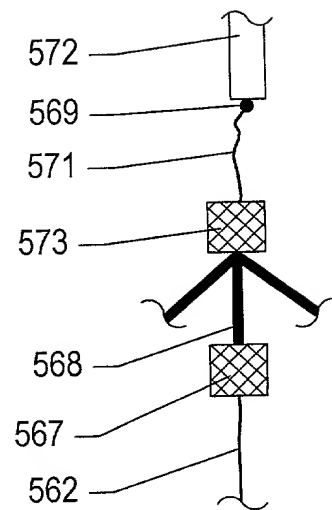


FIG. 17A

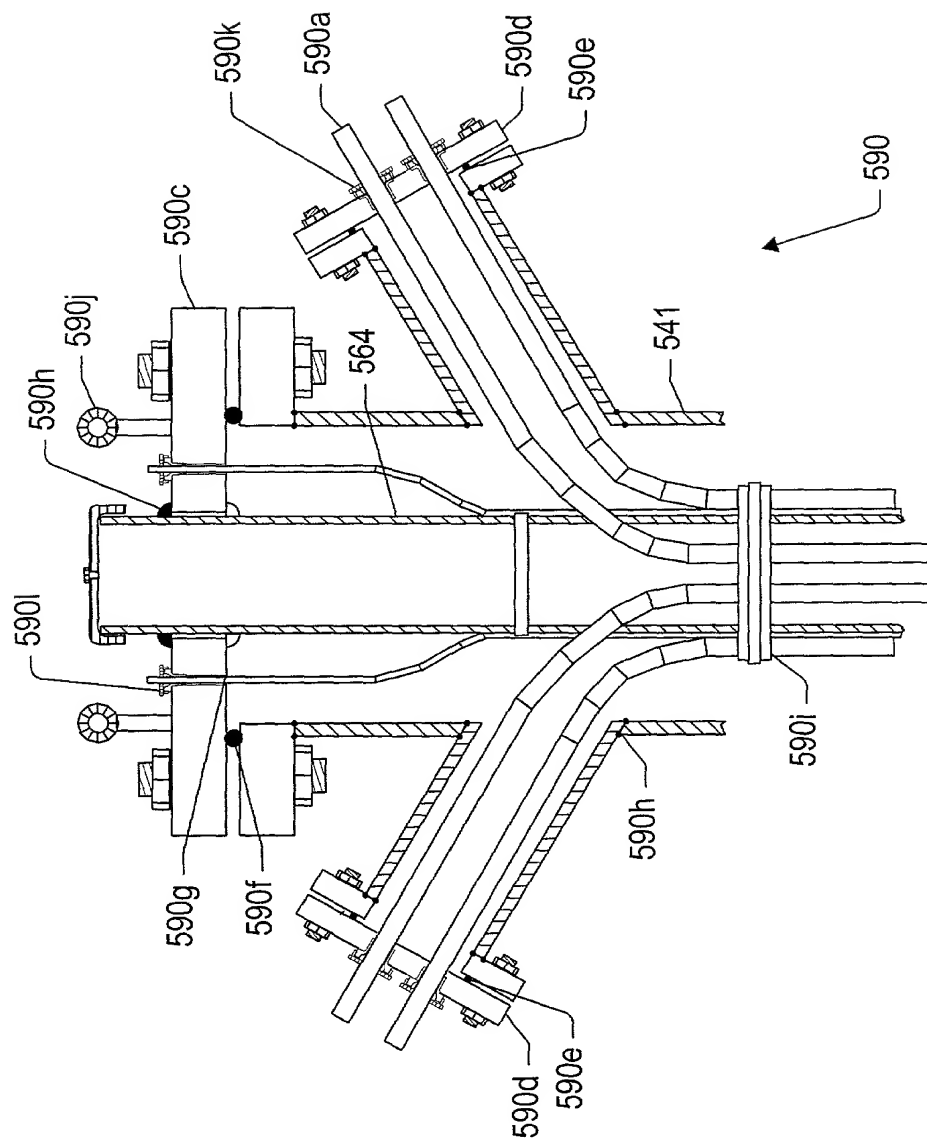


FIG. 18





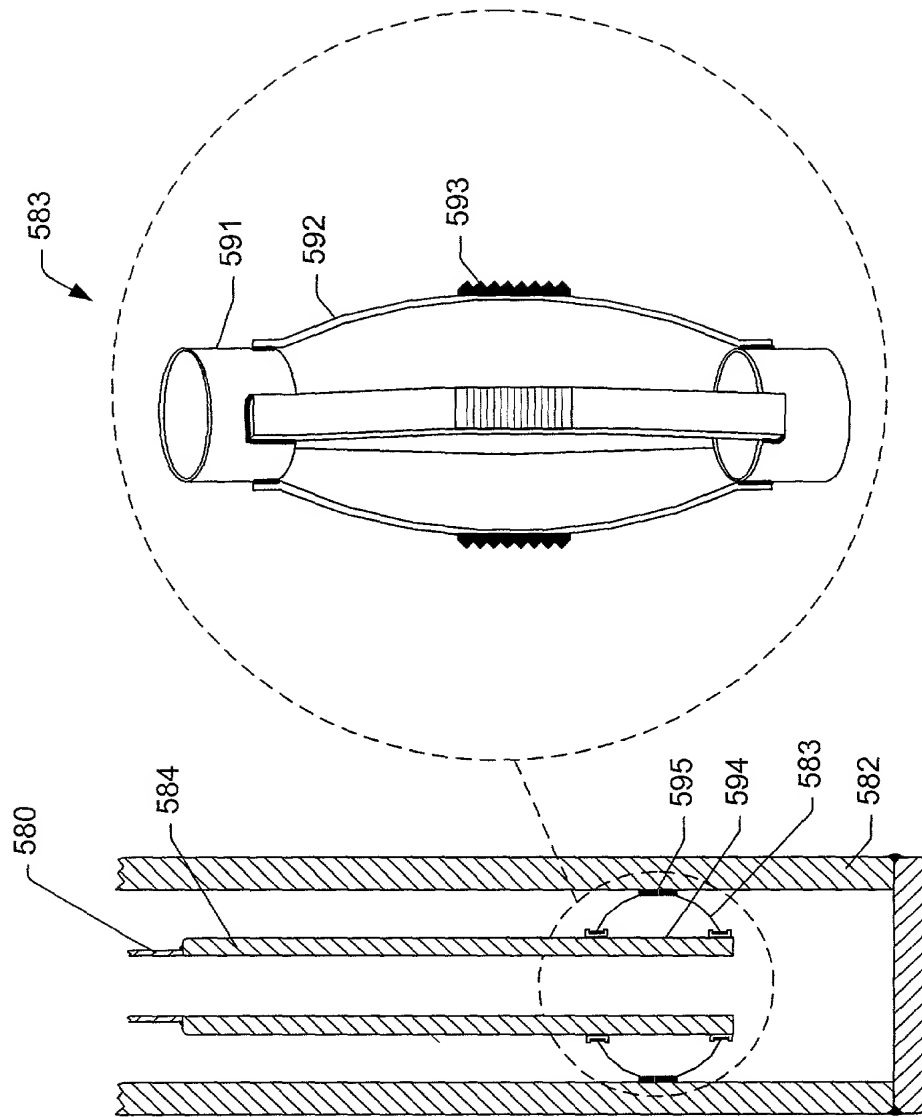


FIG. 20

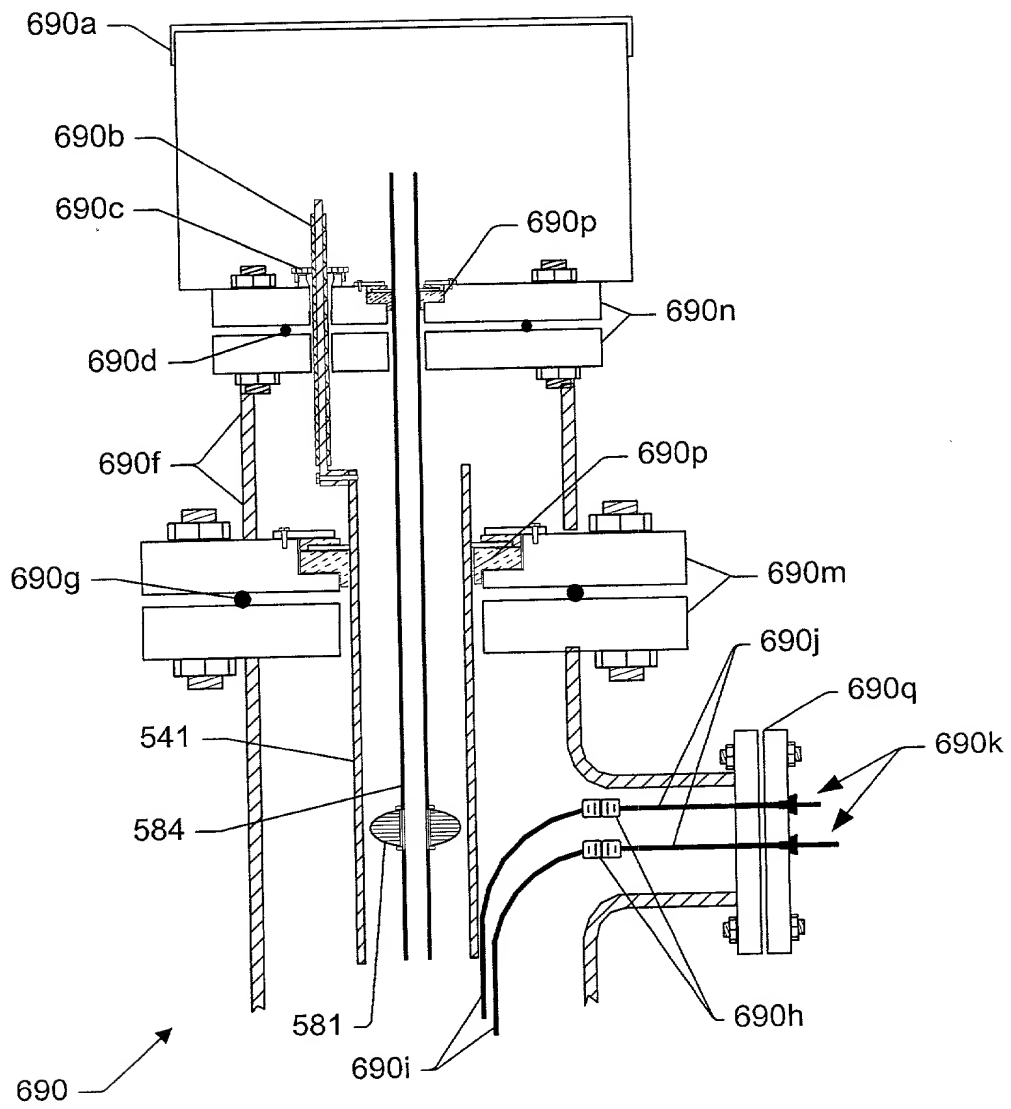


FIG. 21

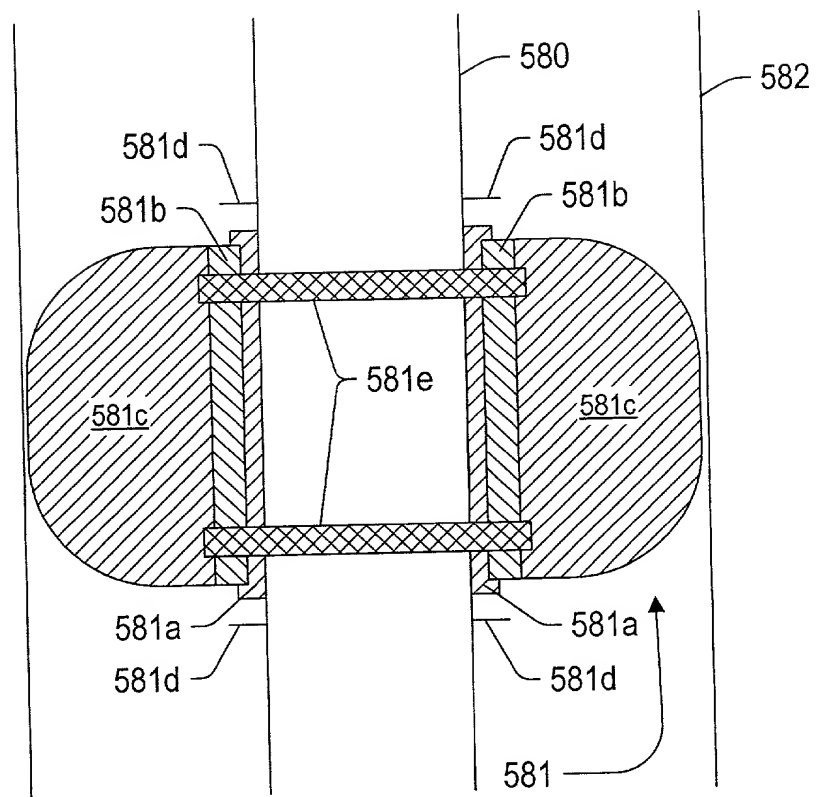


FIG. 22

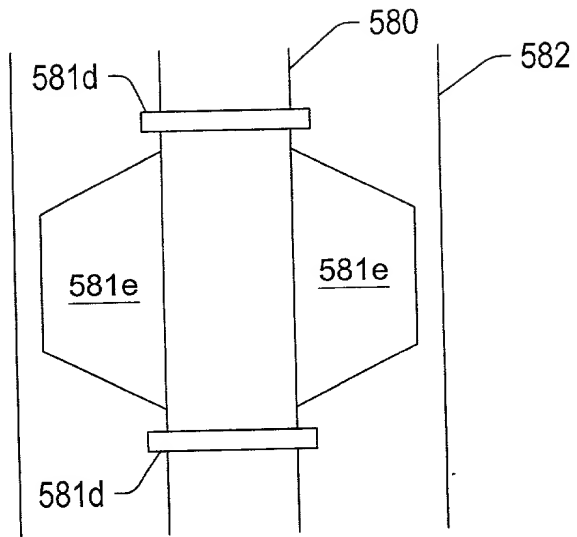


FIG. 23a

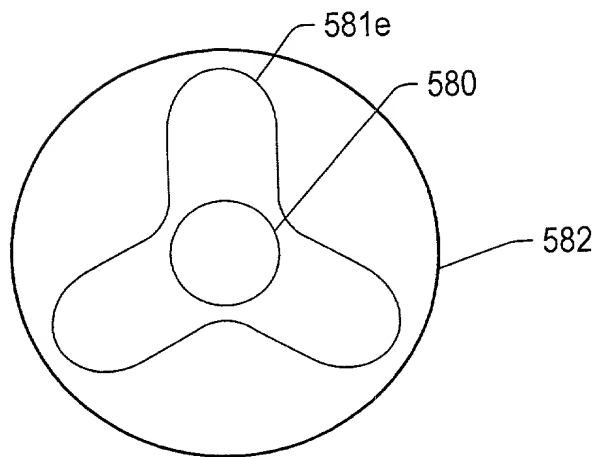


FIG. 23b

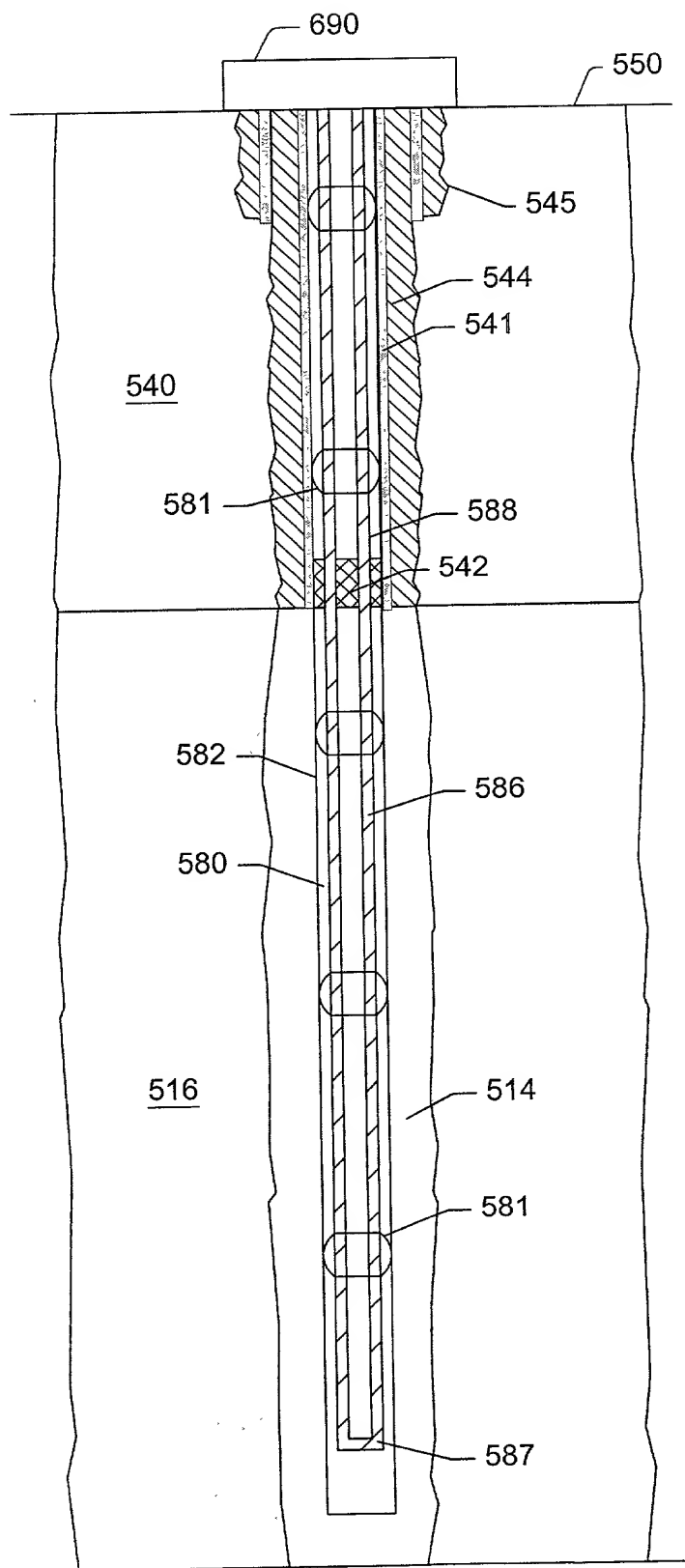


Fig. 24

Parameter	Value	Unit
Temperature	25.0	°C
Pressure	1.0	atm
Flow rate	1.0	L/min
Sample concentration	0.1	g/L
Sample volume	1.0	L
Sample weight	0.1	g
Sample size	0.1	mm
Sample shape	0.1	mm
Sample color	0.1	mm
Sample texture	0.1	mm
Sample density	0.1	g/cm <sup>3</sup>
Sample viscosity	0.1	Pa·s
Sample conductivity	0.1	S/cm
Sample refractive index	0.1	-
Sample absorbance	0.1	-
Sample transmittance	0.1	-
Sample reflectance	0.1	-
Sample emissivity	0.1	-
Sample permeability	0.1	-
Sample porosity	0.1	-
Sample surface area	0.1	m <sup>2</sup>
Sample volume fraction	0.1	-
Sample mass fraction	0.1	-
Sample molar fraction	0.1	-
Sample weight fraction	0.1	-
Sample mole fraction	0.1	-
Sample mass fraction	0.1	-
Sample molar fraction	0.1	-
Sample weight fraction	0.1	-
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Sample weight fraction	0.1	-
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Sample weight fraction	0.1	-
Sample mole fraction	0.1	-
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Sample molar fraction	0.1	-
Sample weight fraction	0.1	-
Sample mole fraction	0.1	-
Sample mass fraction	0.1	-
Sample molar fraction	0.1	-
Sample weight fraction	0.1	-
Sample mole fraction		

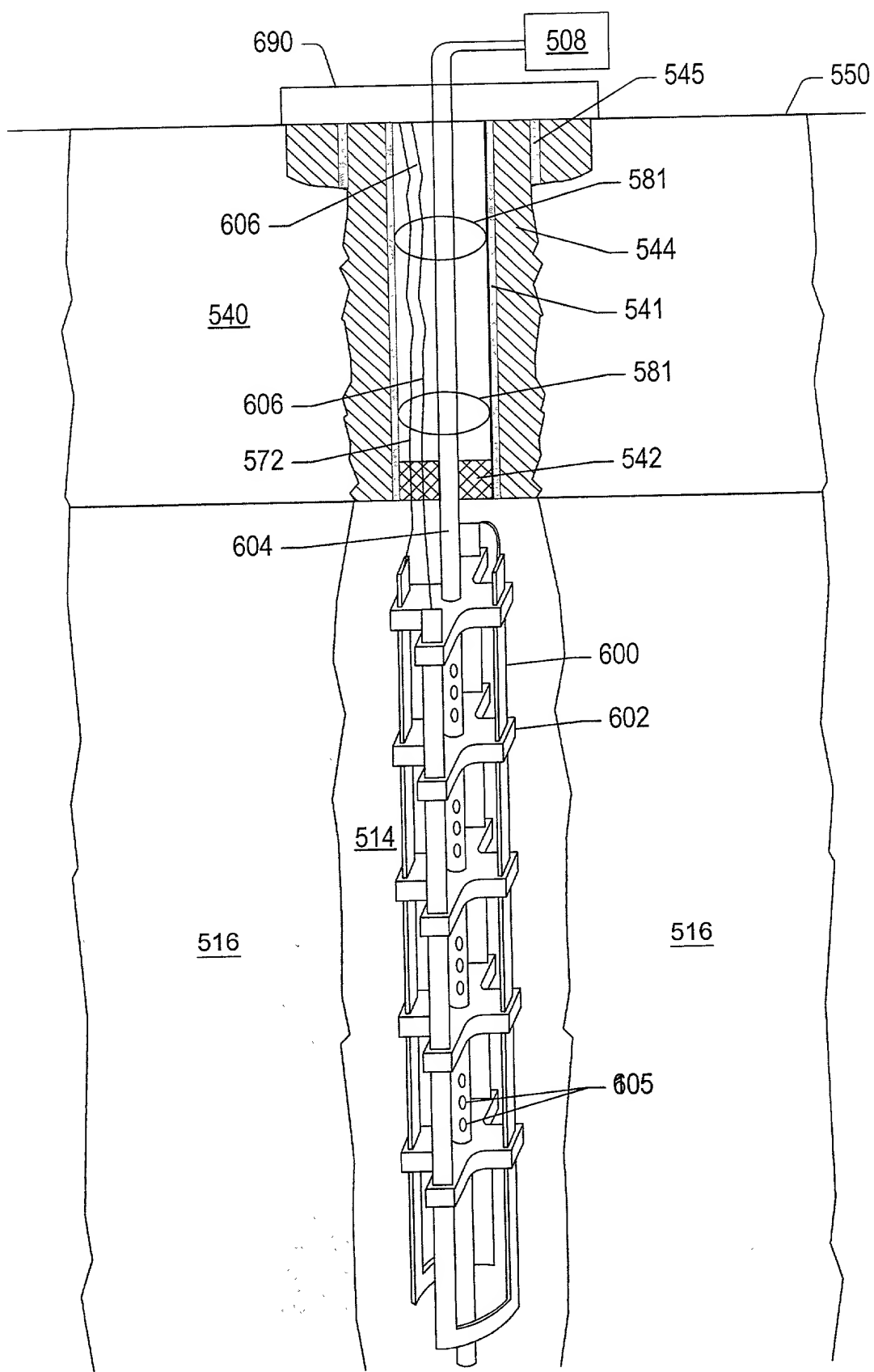


FIG. 25

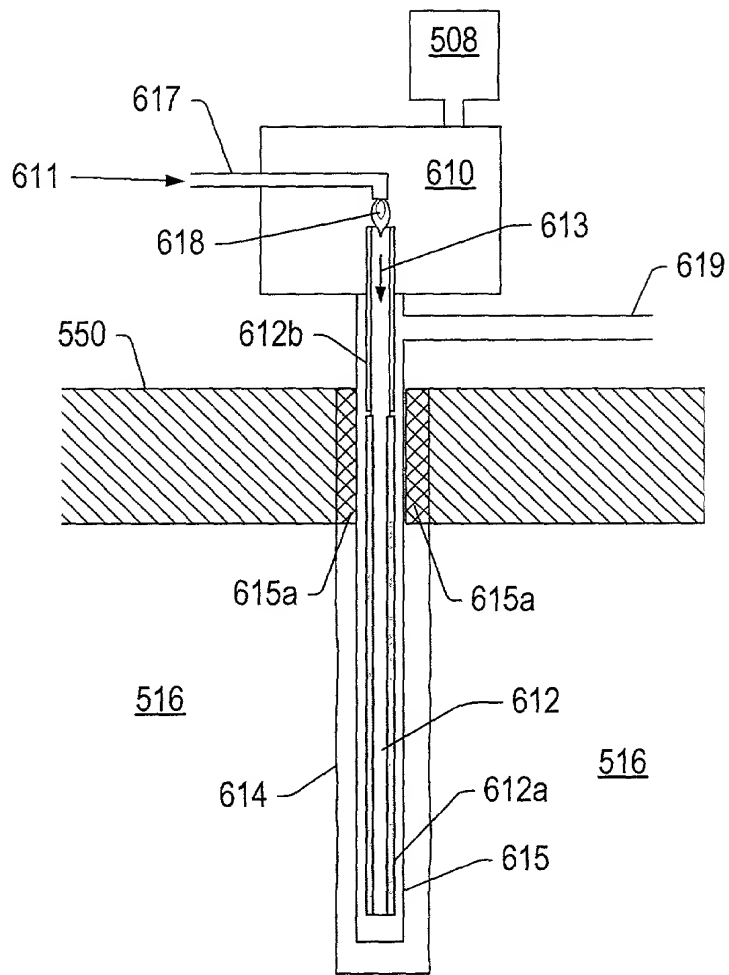


FIG. 26

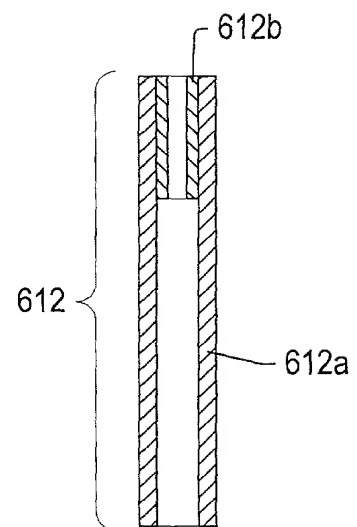


FIG. 27

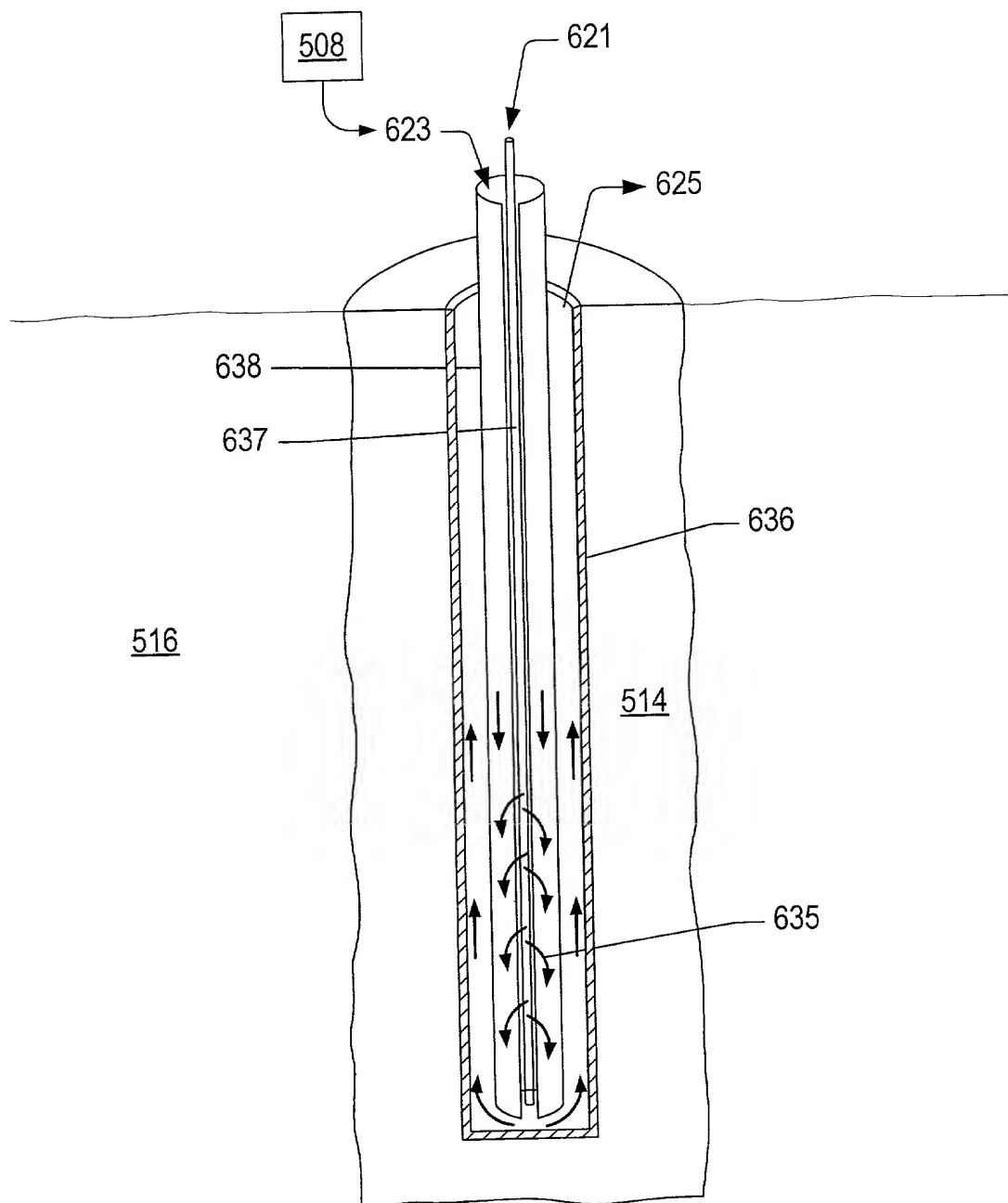


FIG. 28



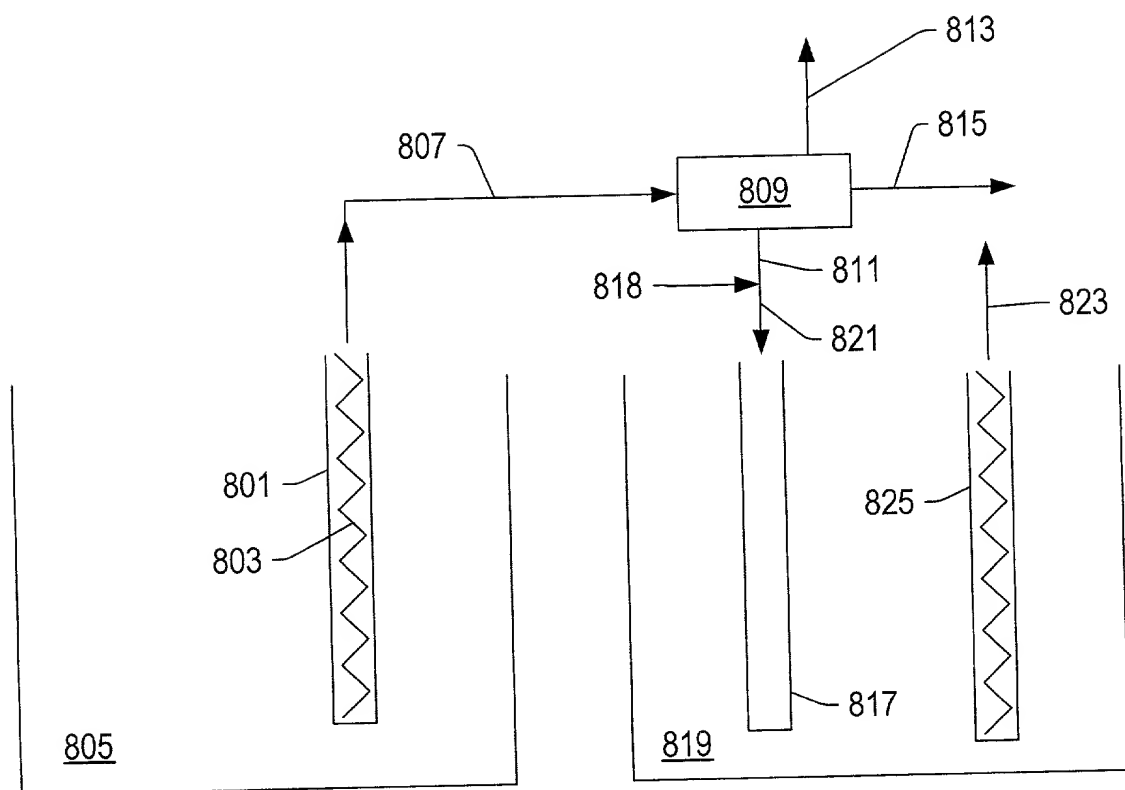


FIG. 29

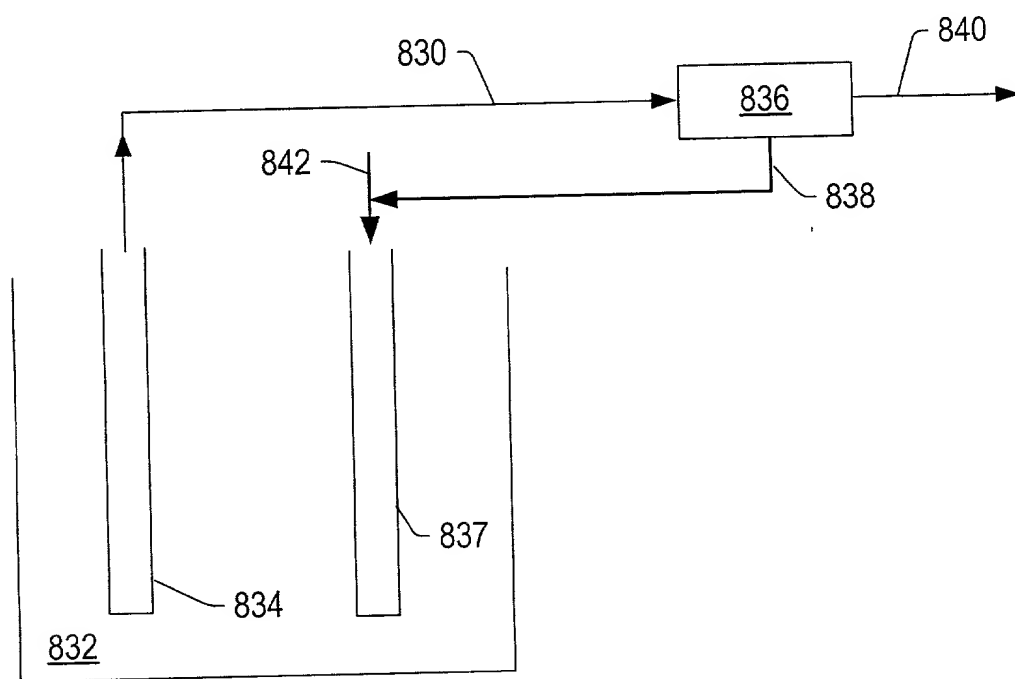


FIG. 30

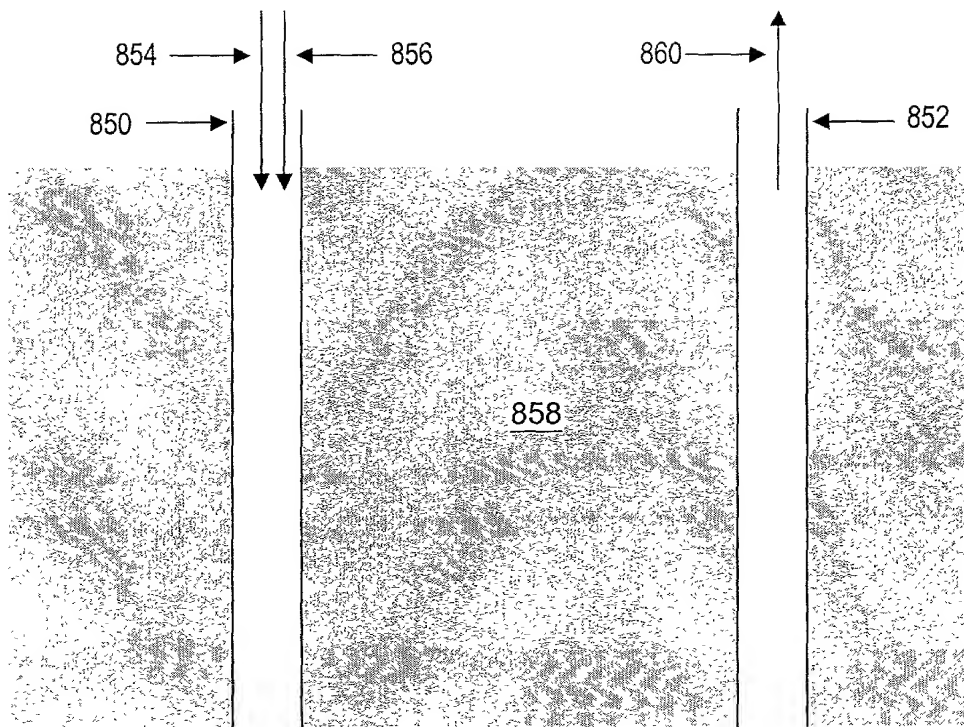


FIG. 31

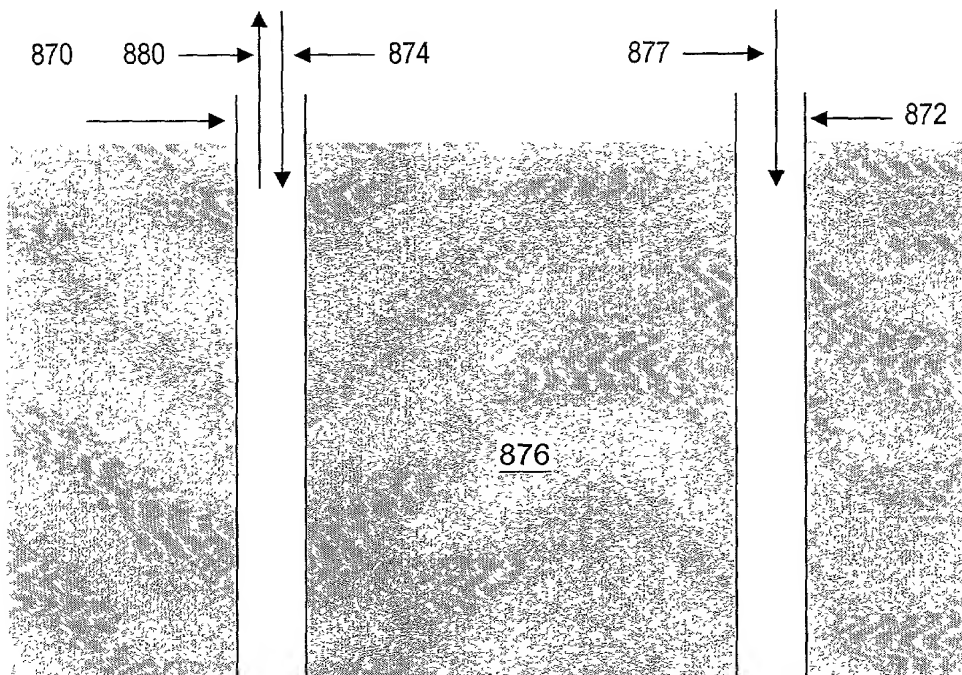


FIG. 32

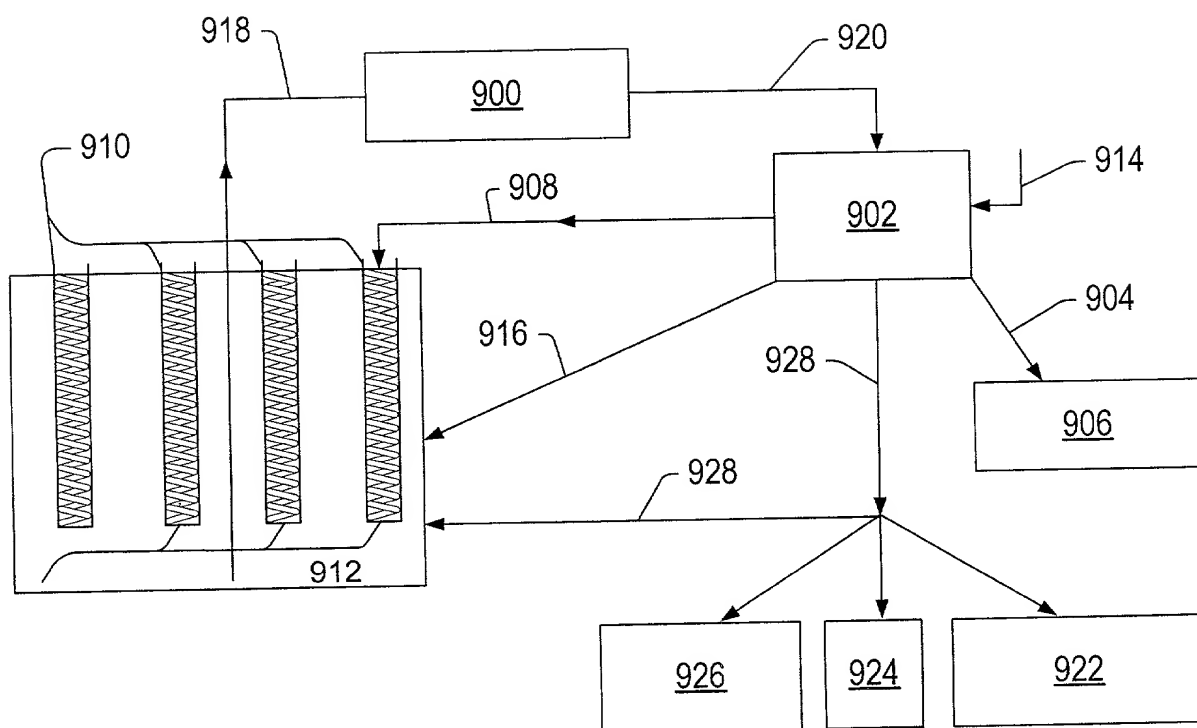


FIG. 33

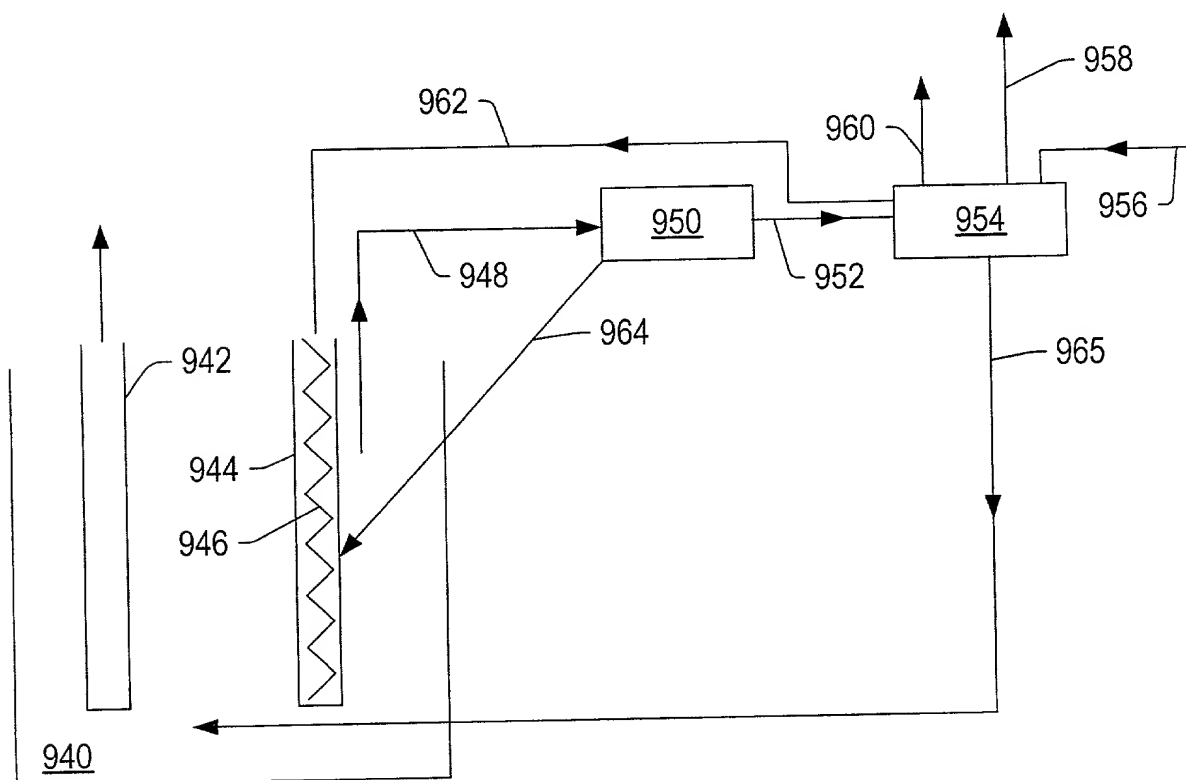


FIG. 34

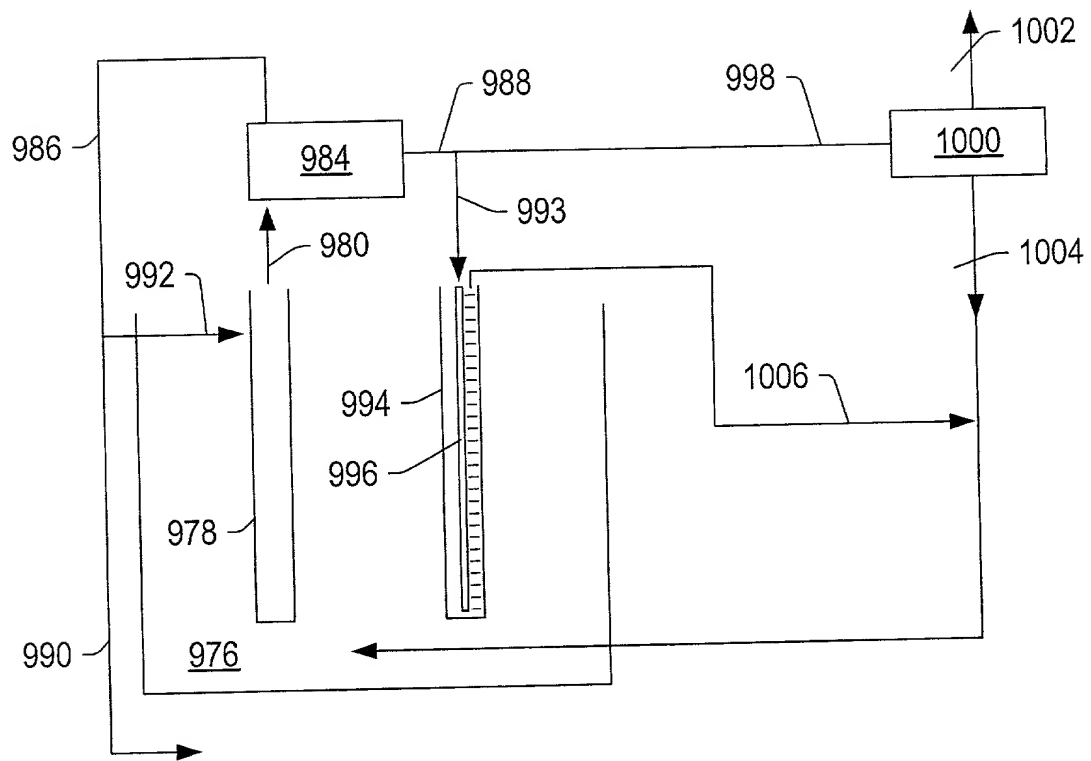


FIG. 35

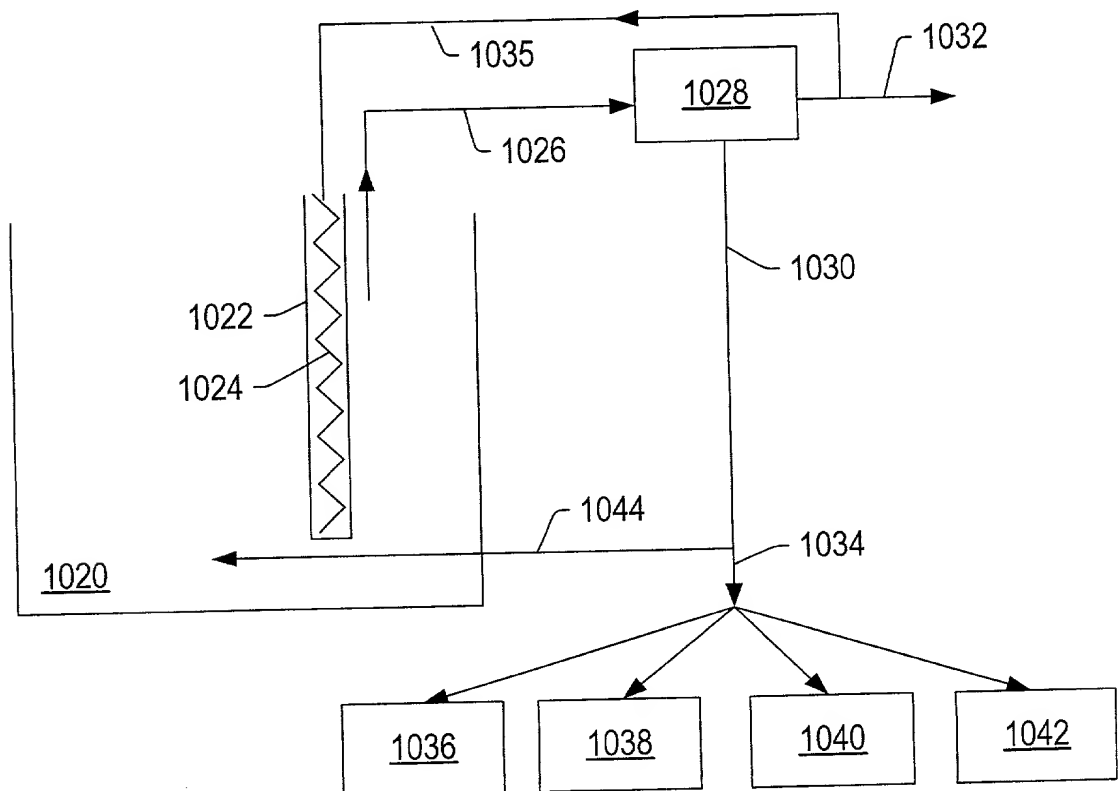


FIG. 36

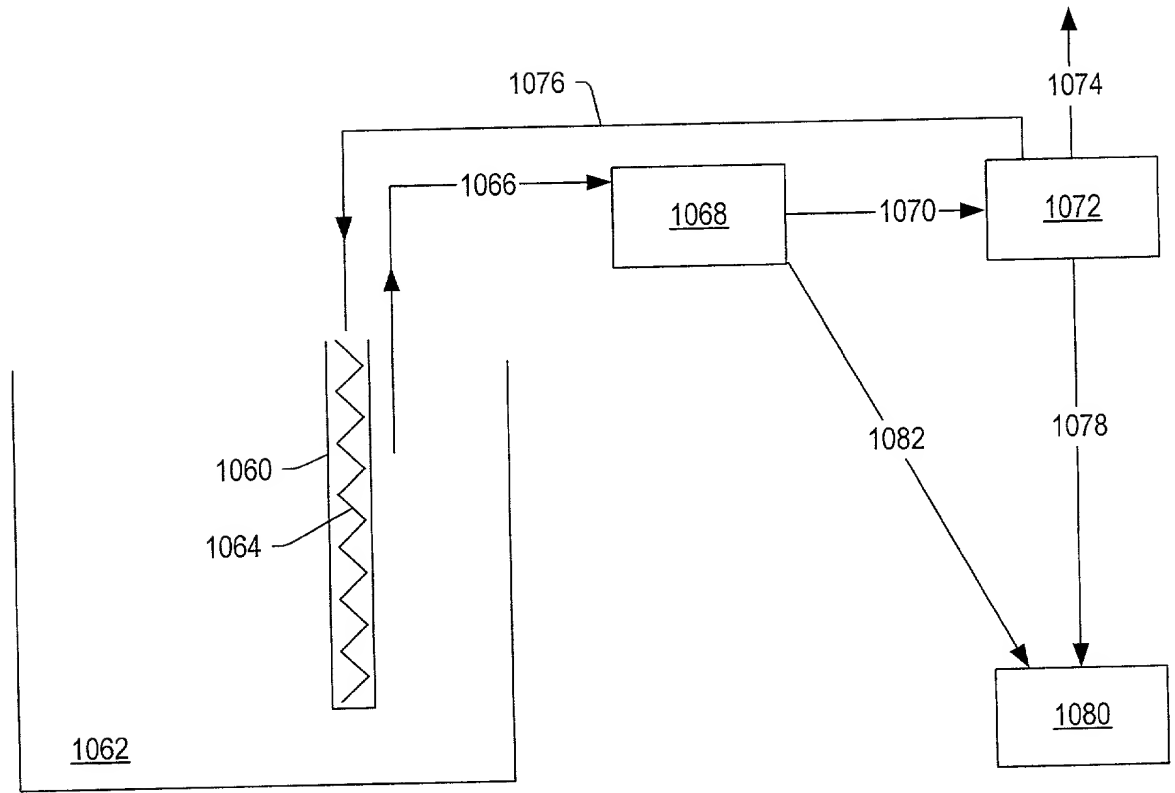


FIG. 37

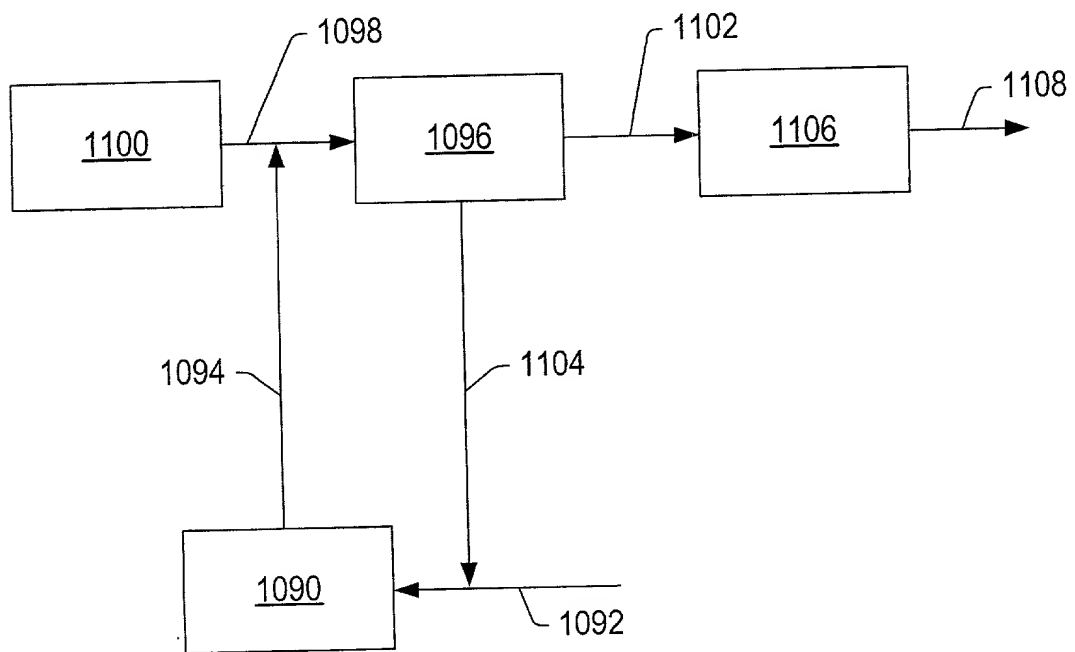


FIG. 38

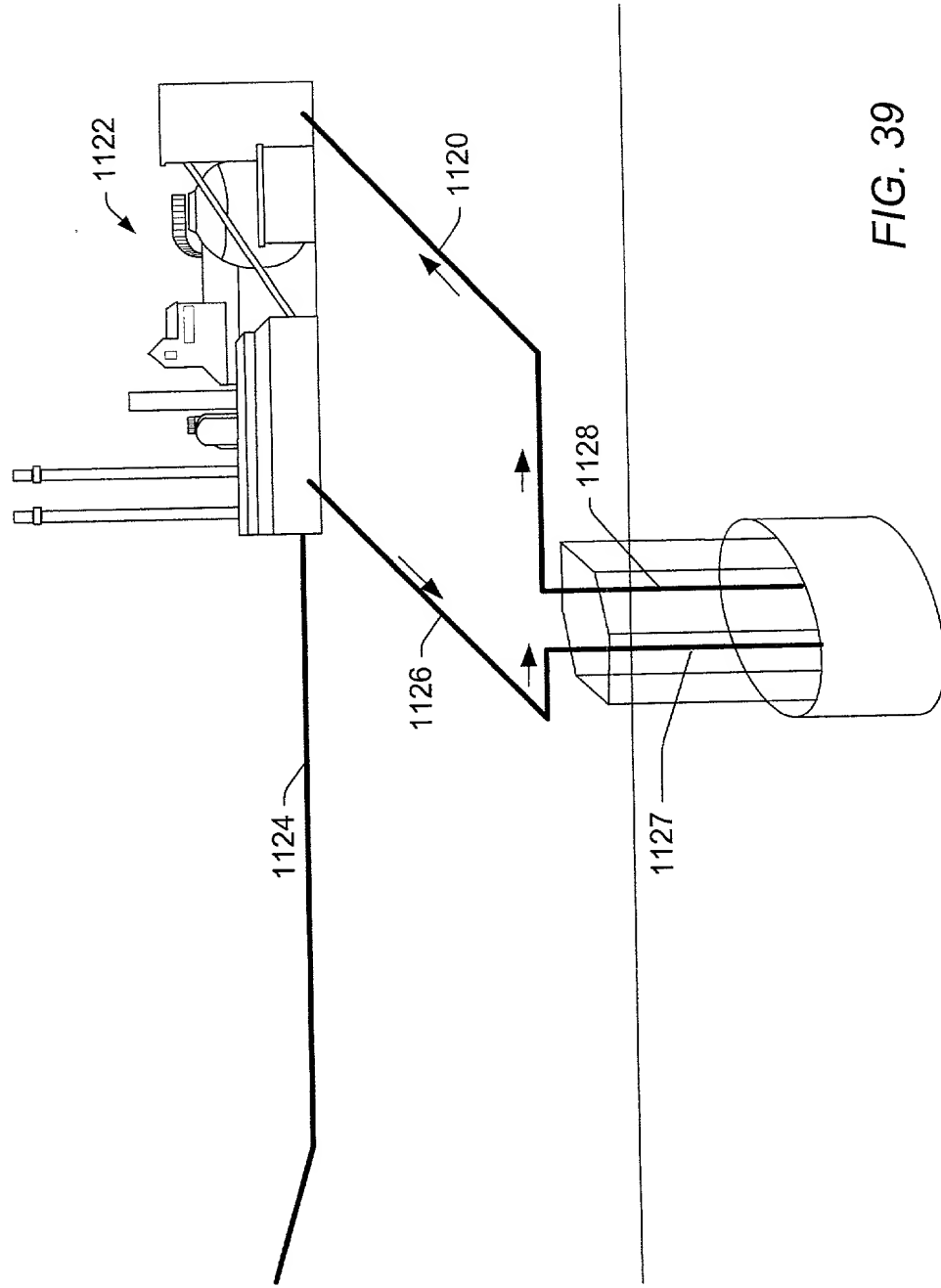


FIG. 39

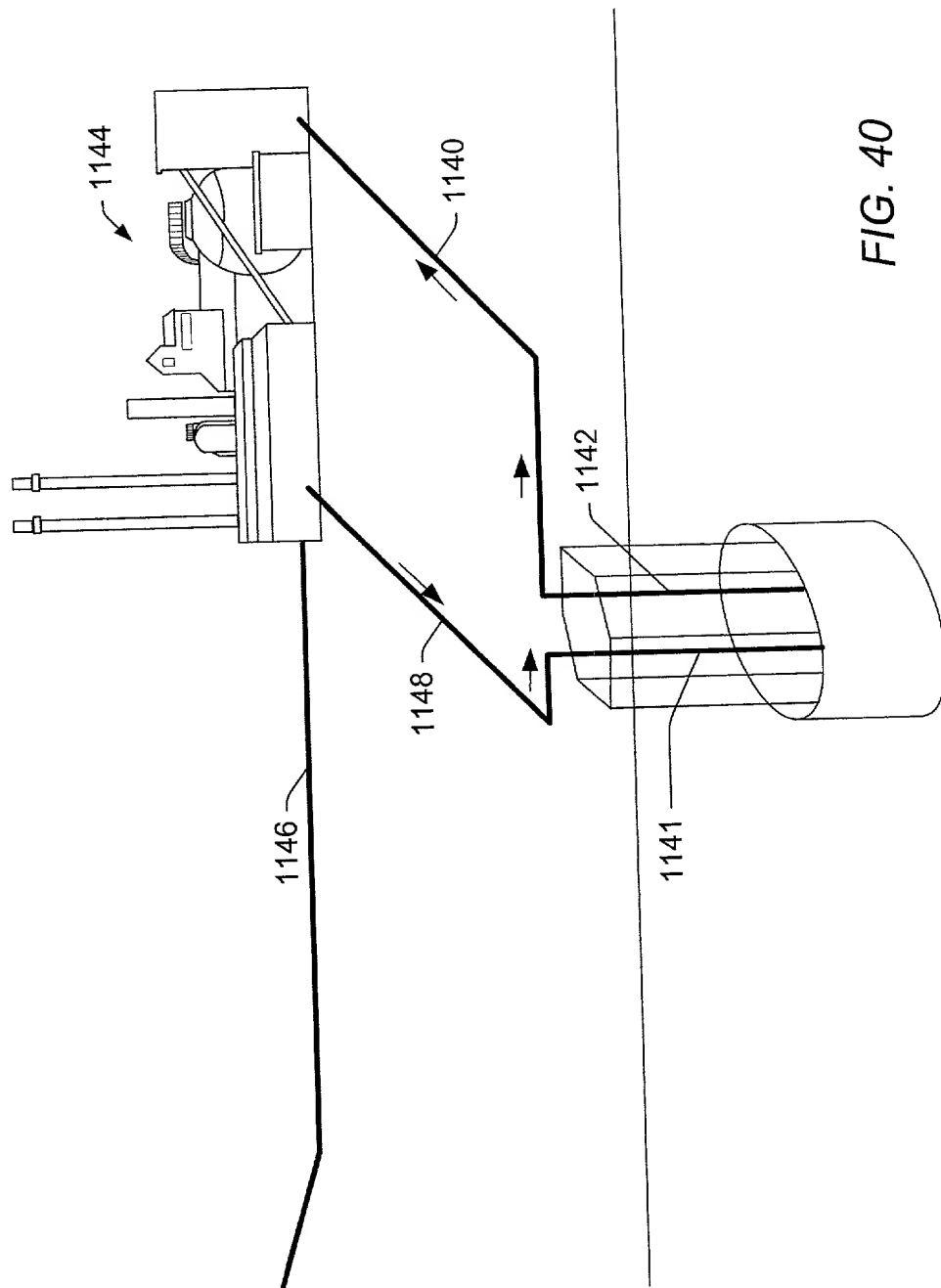


FIG. 40

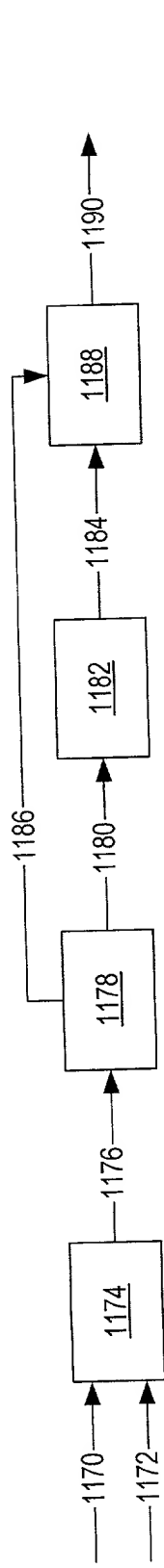


FIG. 41

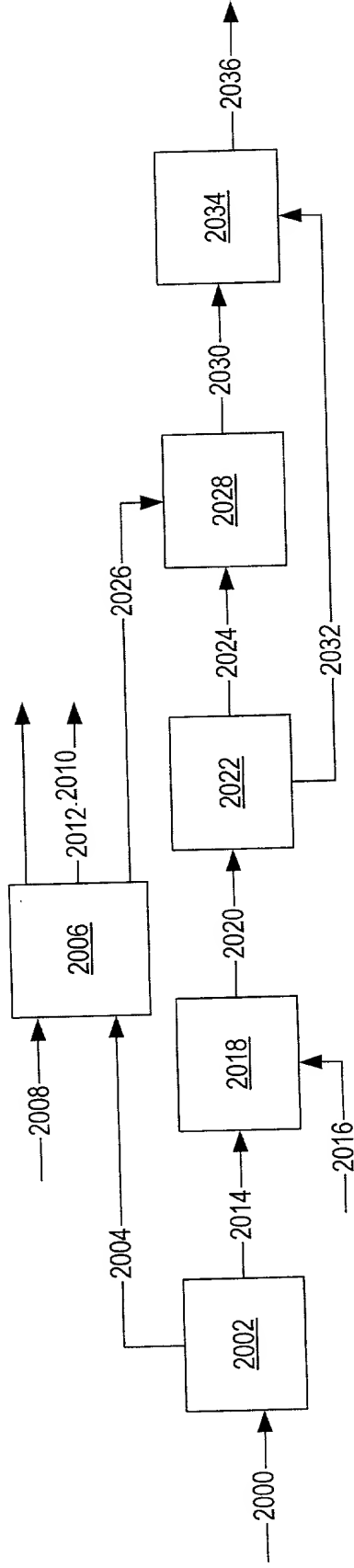


FIG. 42

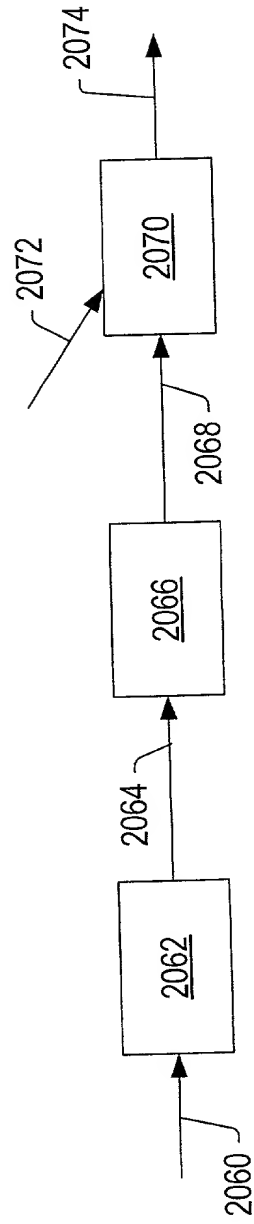


FIG. 43



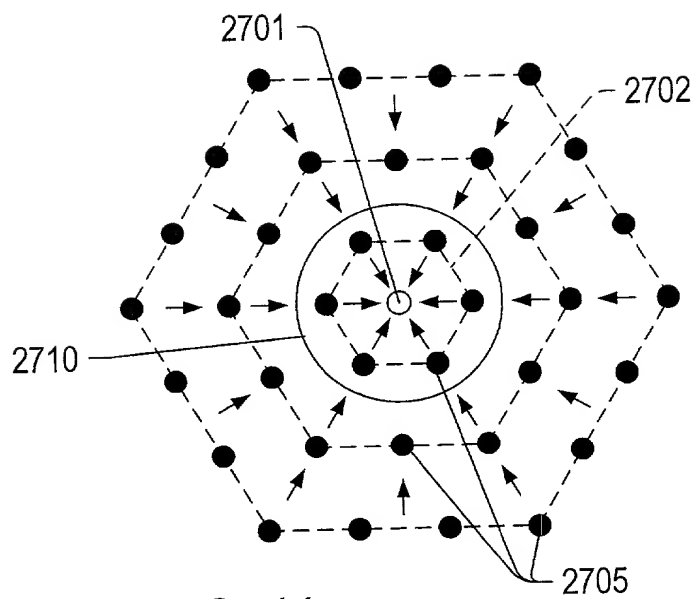


FIG. 44

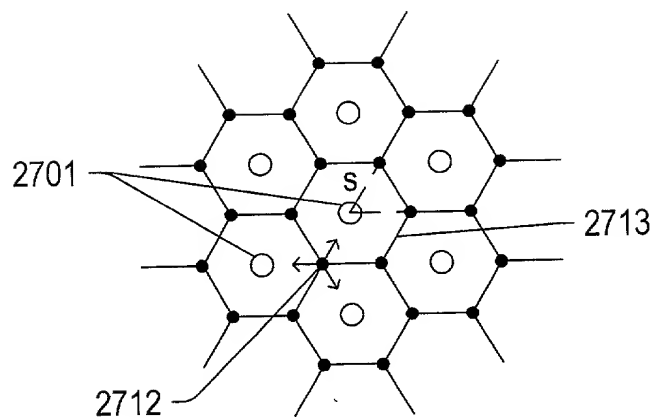


FIG. 45

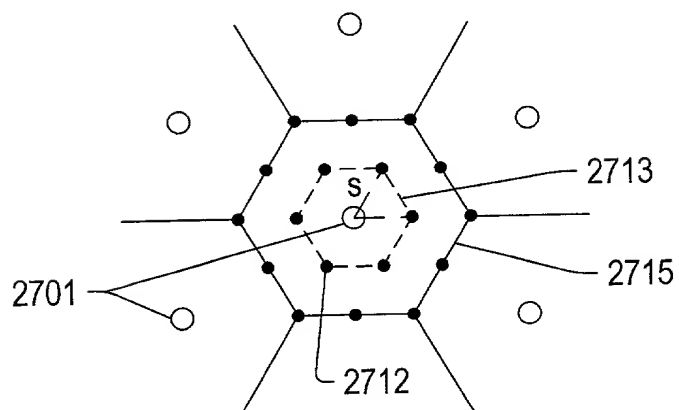


FIG. 46

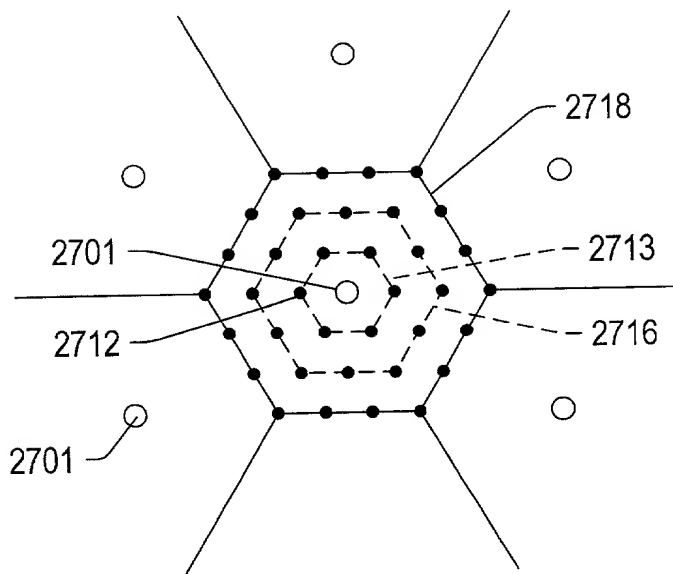


FIG. 47

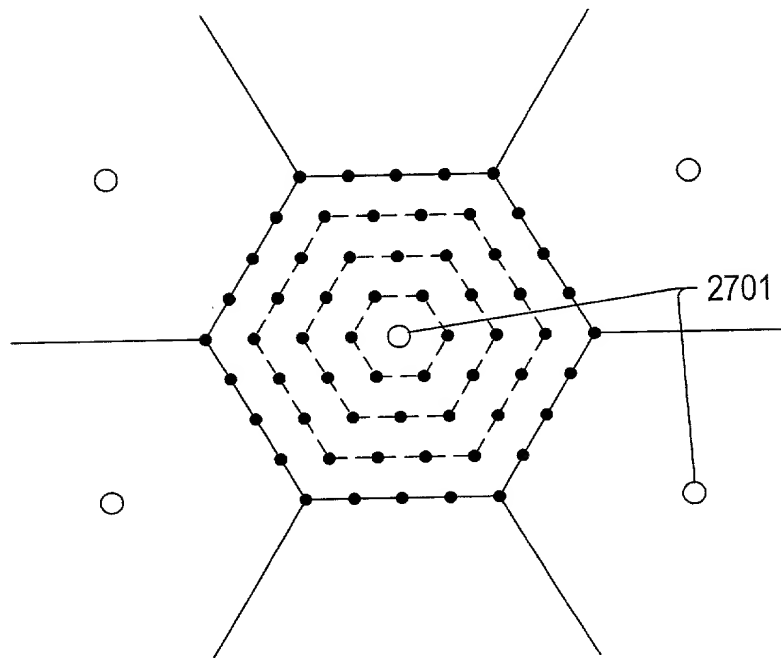


FIG. 48

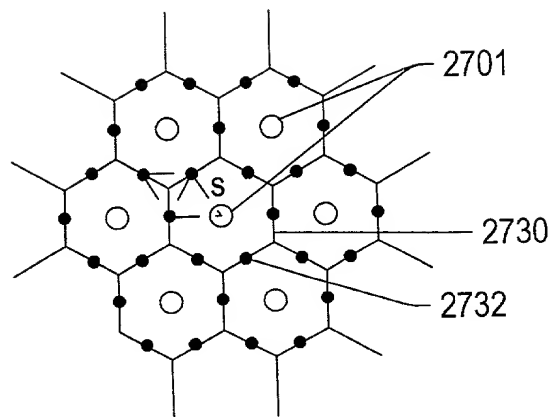


FIG. 49

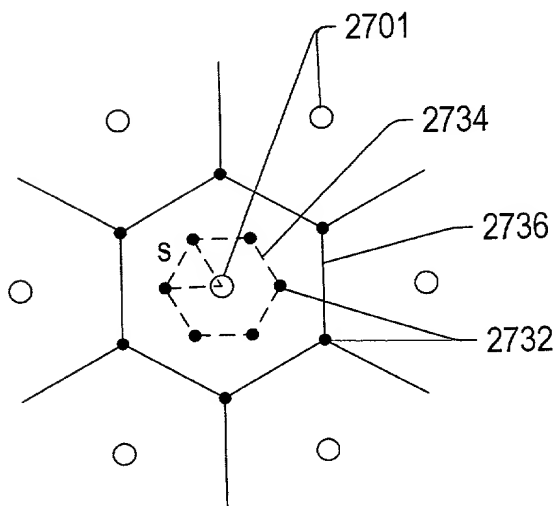


FIG. 50

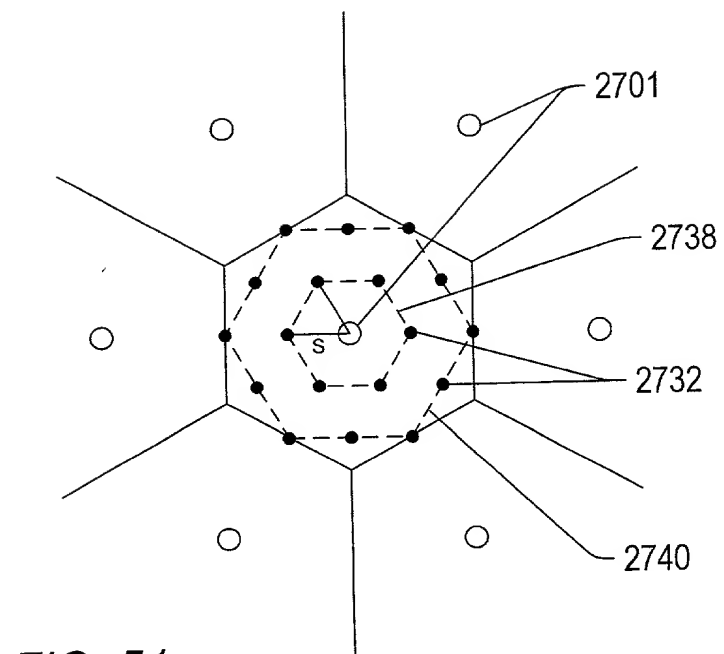


FIG. 51

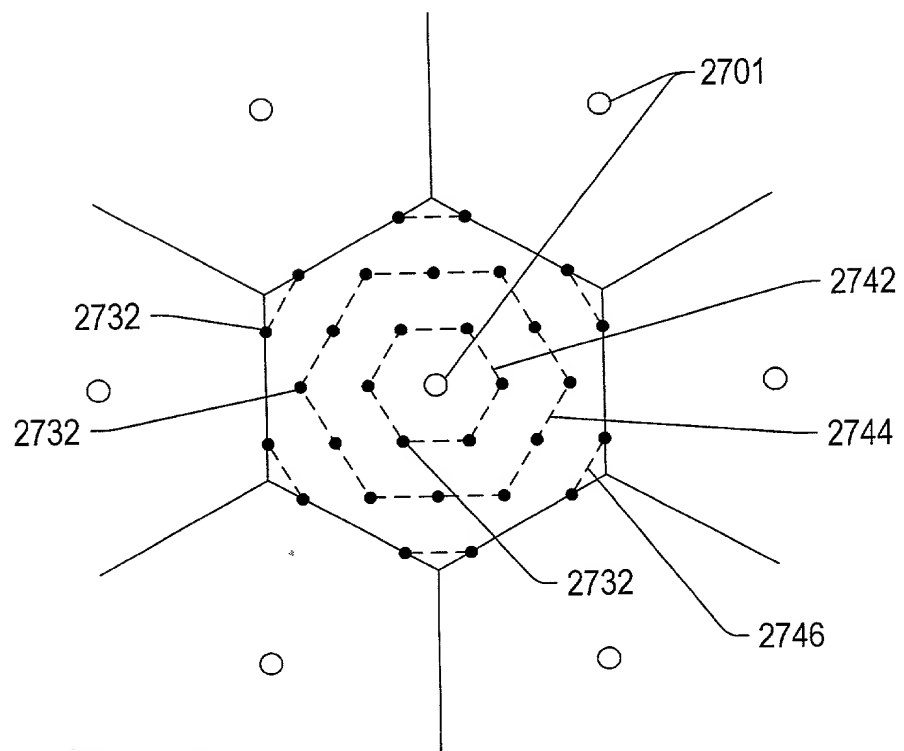


FIG. 52

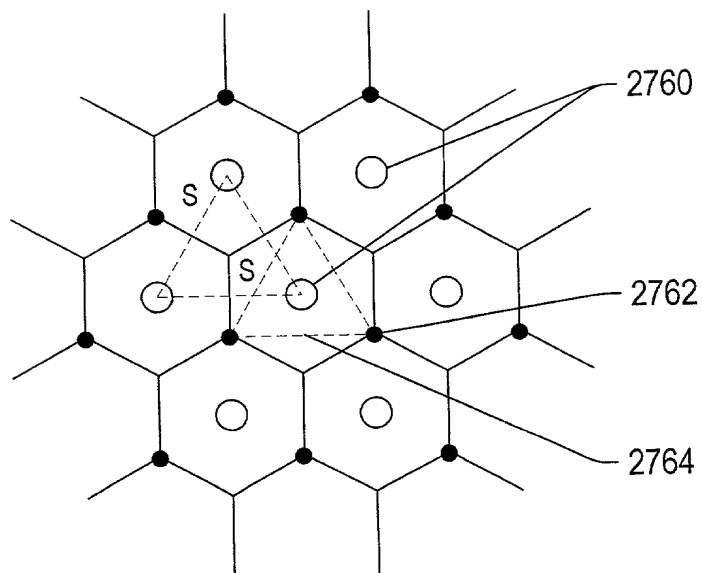


FIG. 53

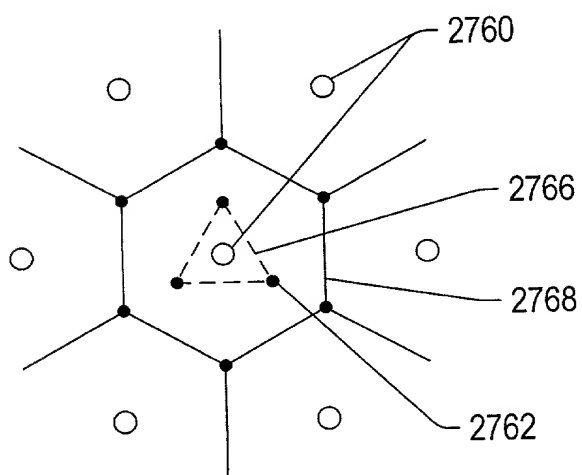


FIG. 54

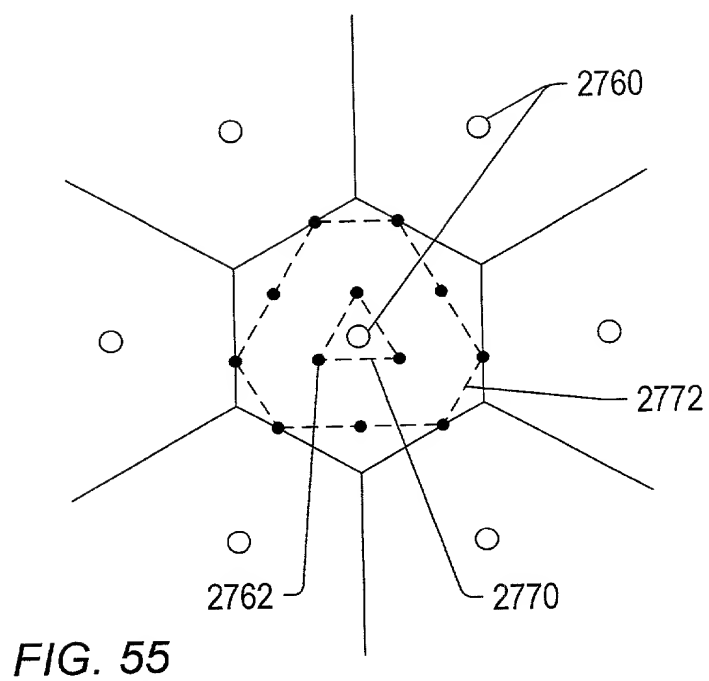


FIG. 55

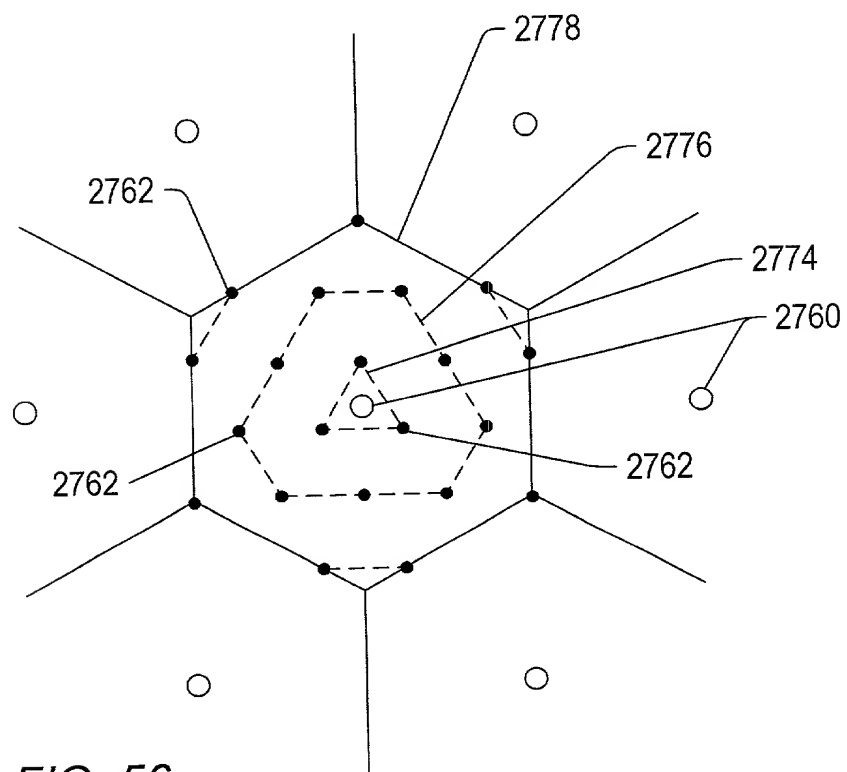


FIG. 56

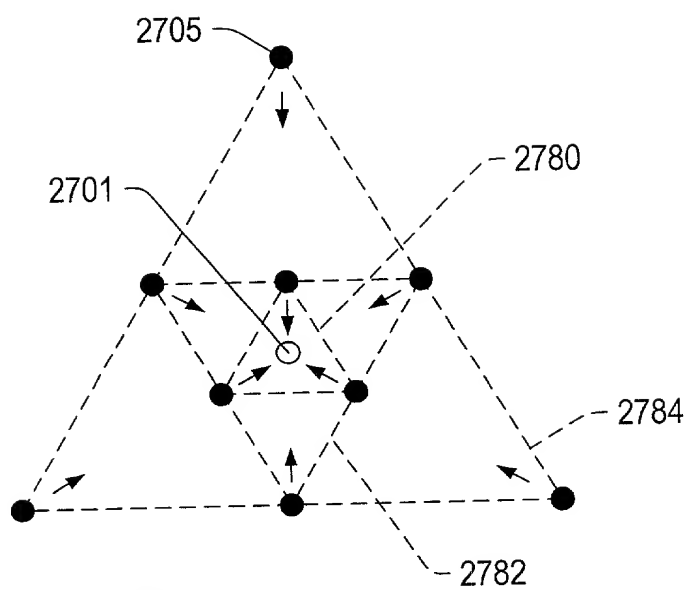


FIG. 57



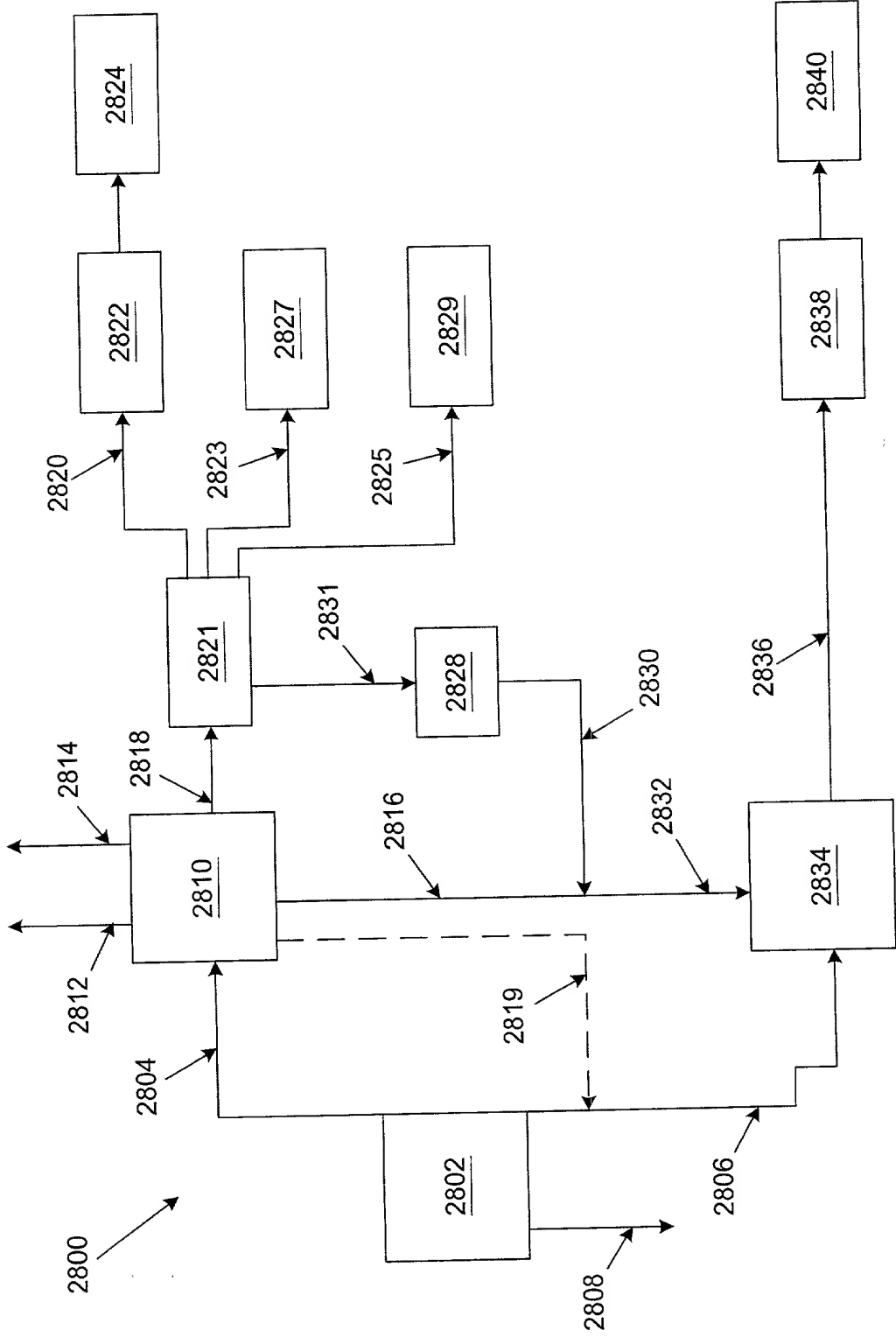
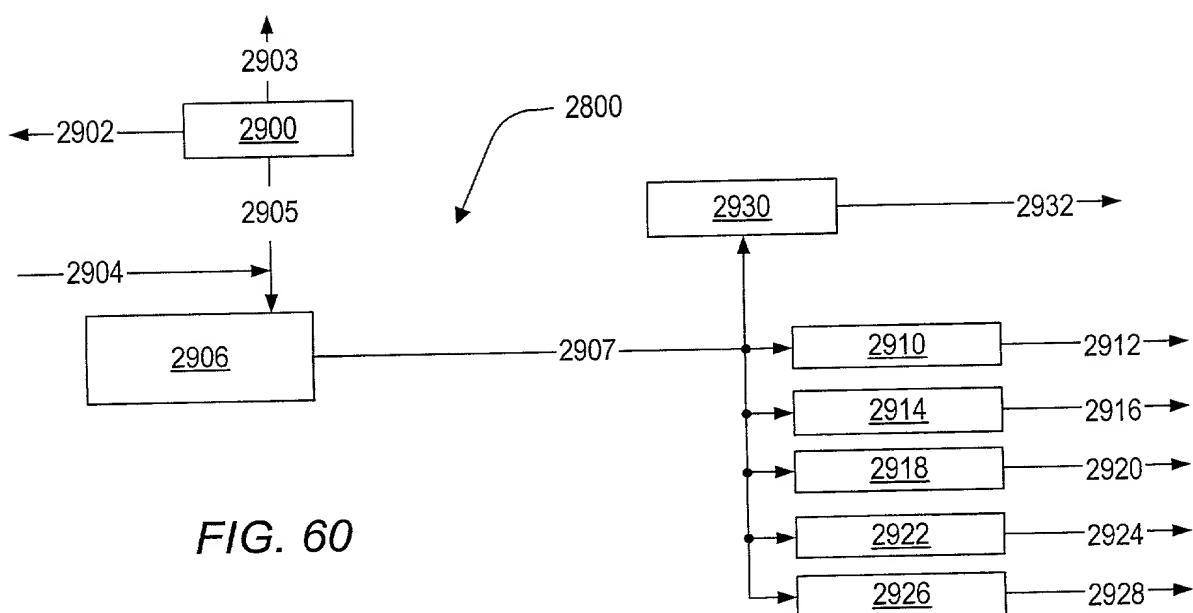
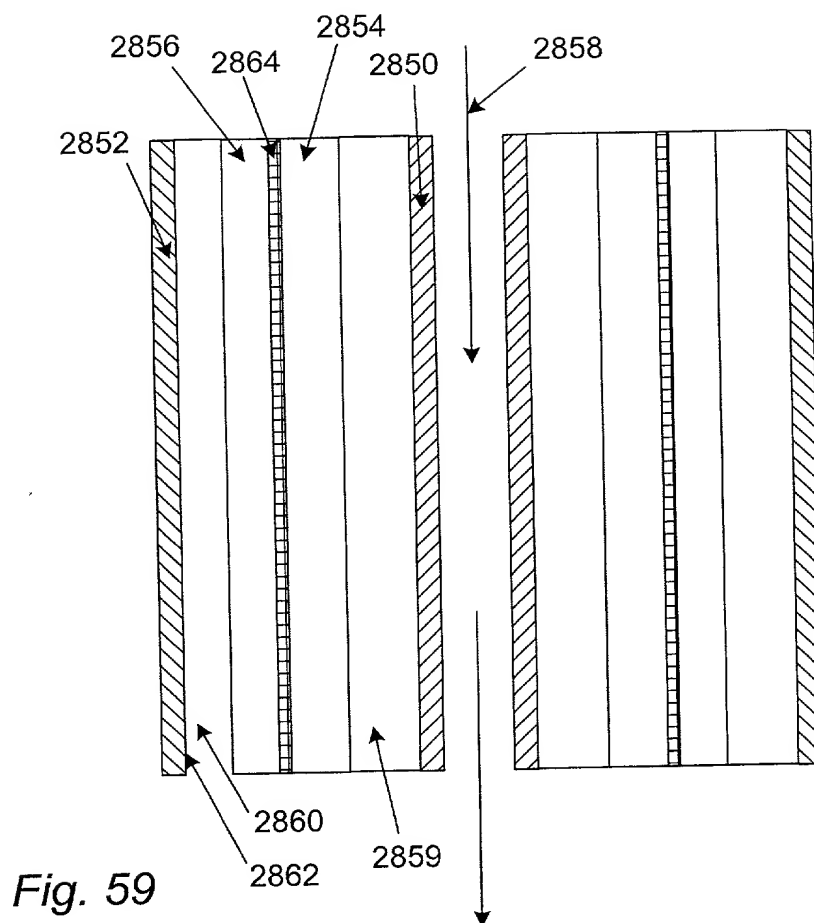


Fig. 58



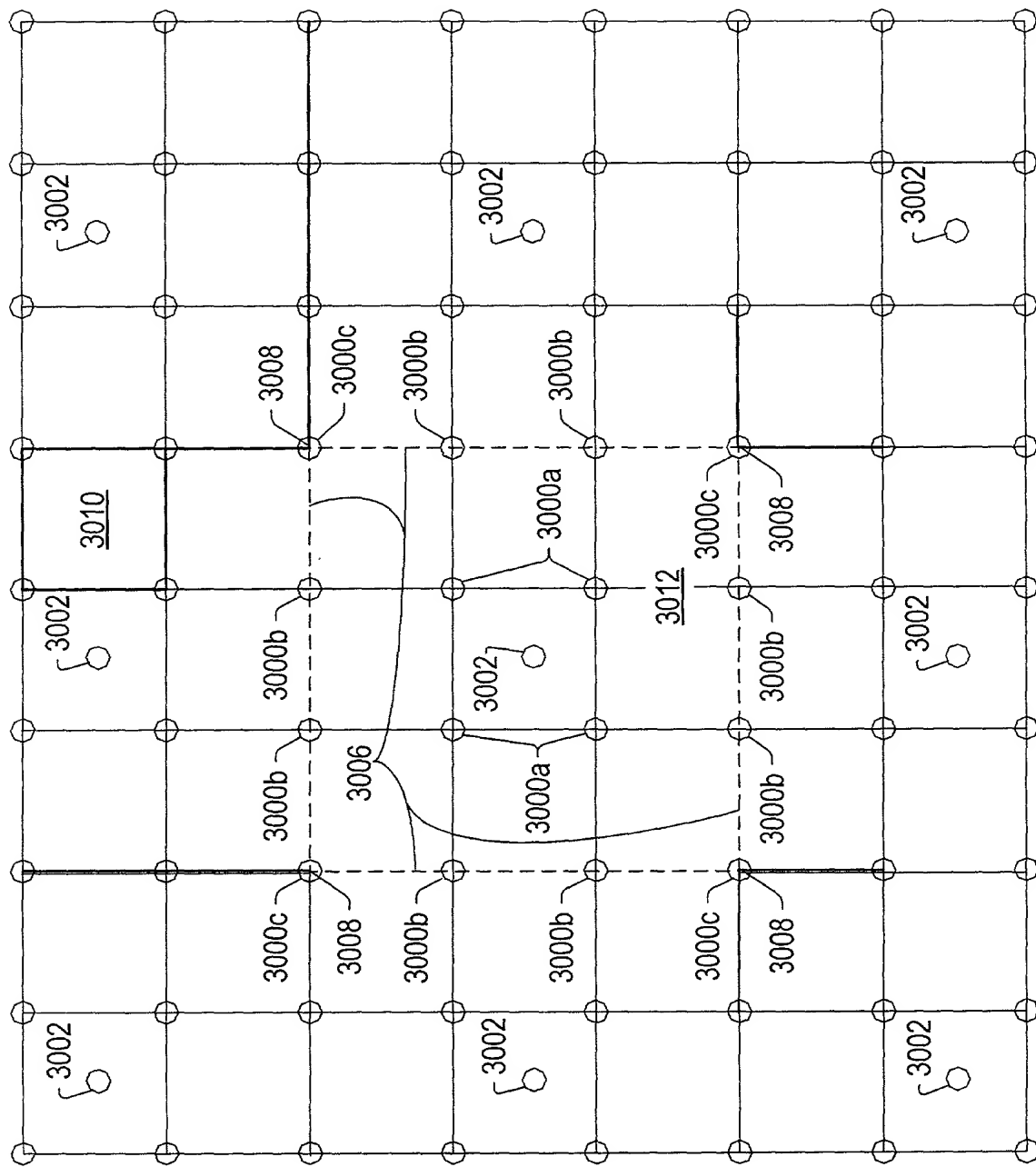


FIG. 61

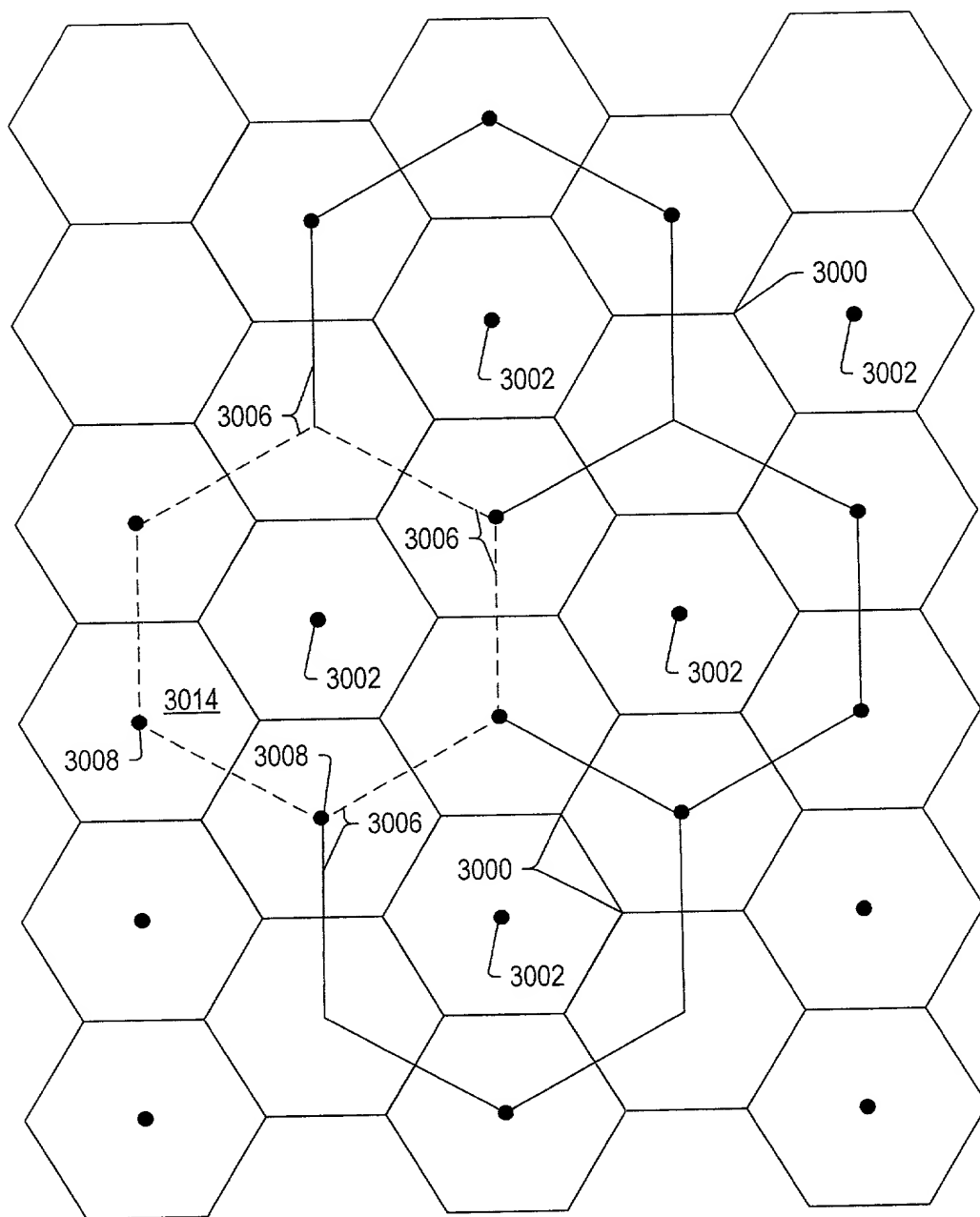


FIG. 62

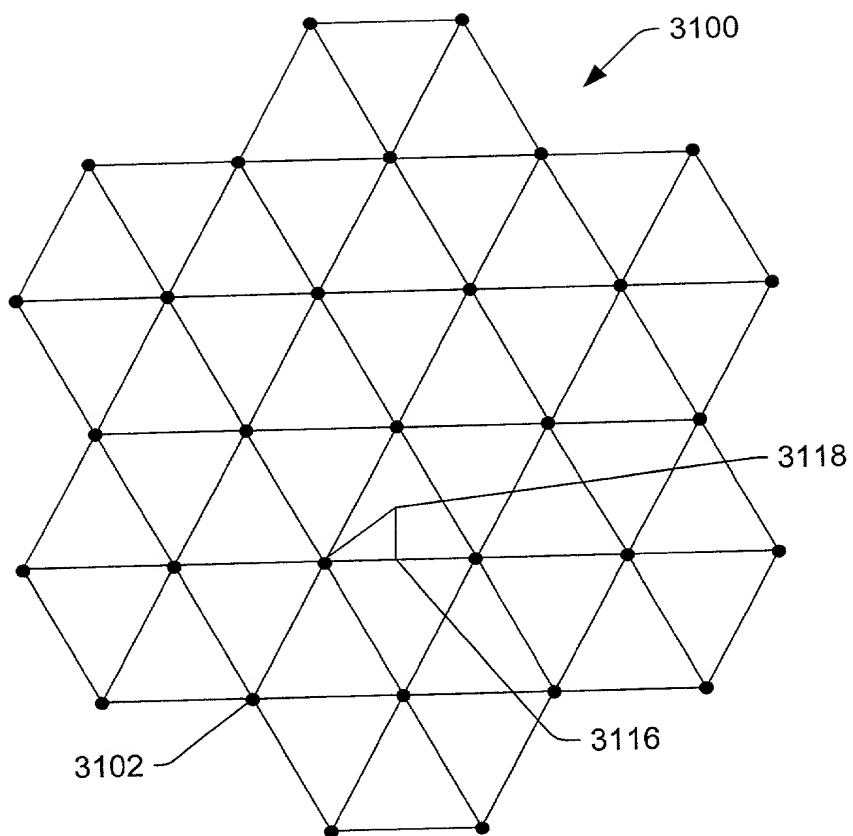


FIG. 63

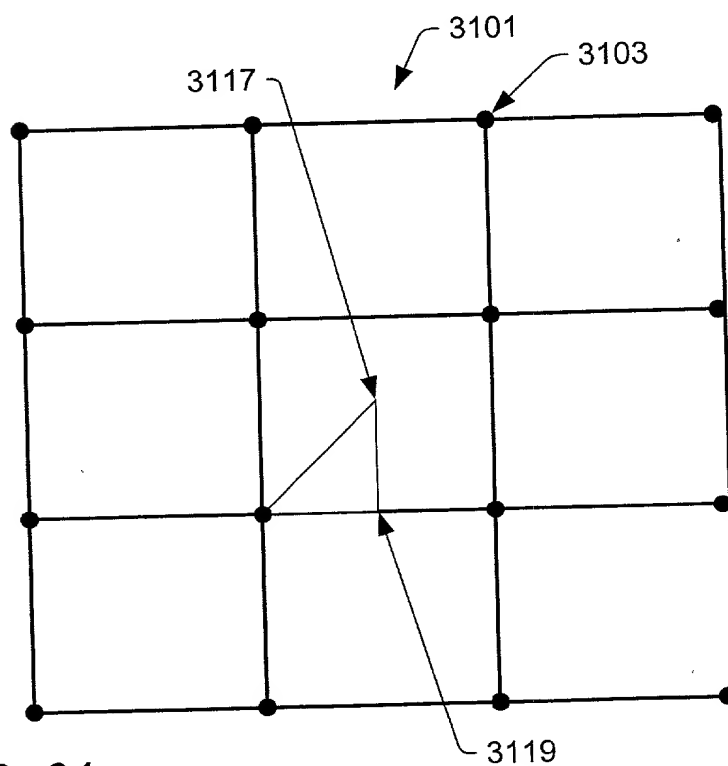


FIG. 64

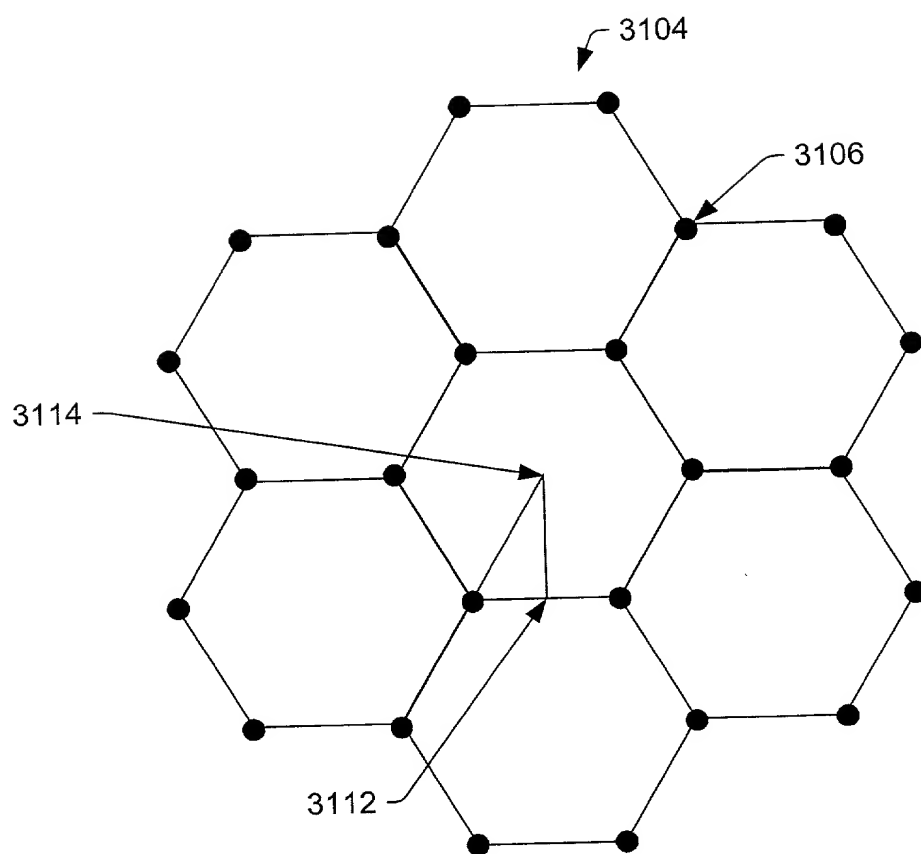


FIG. 65

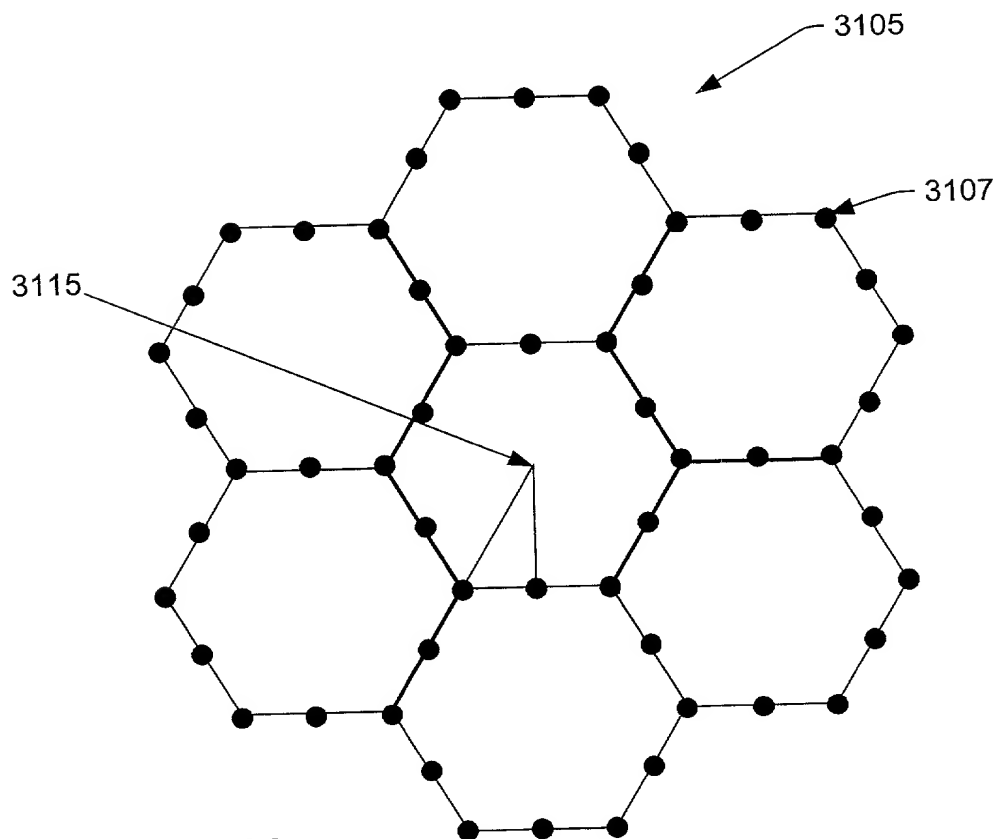


FIG. 66

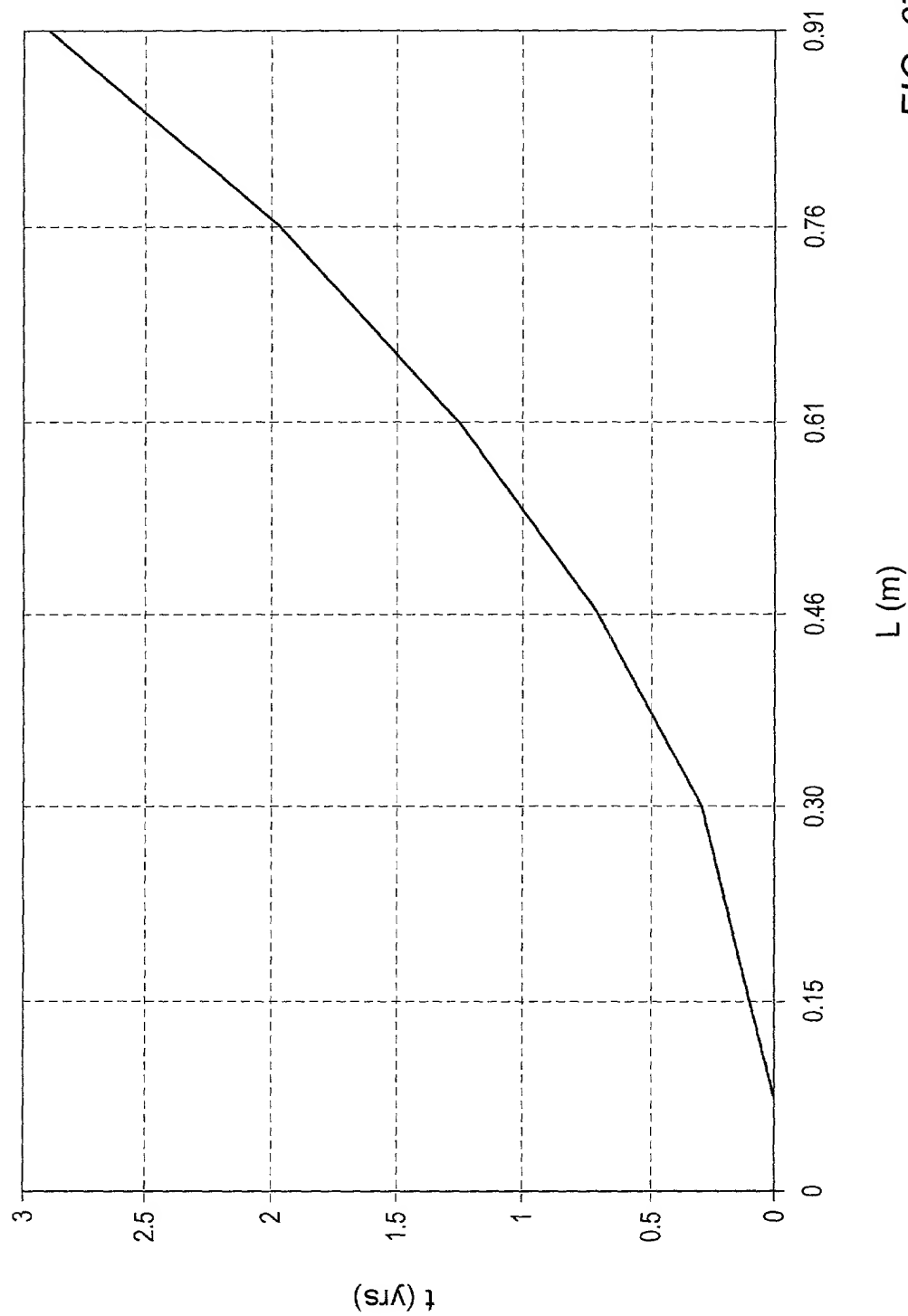


FIG. 67

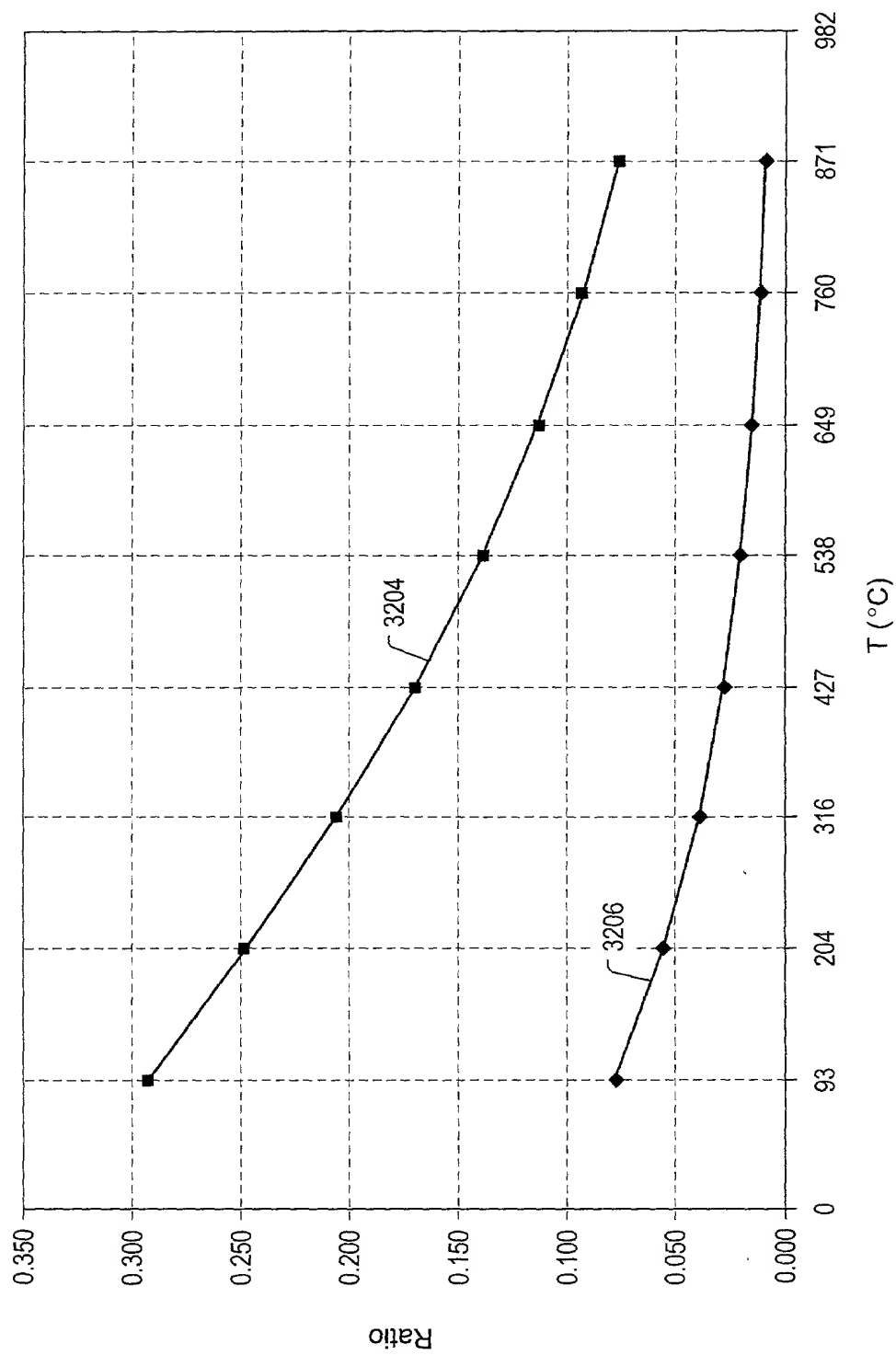


FIG. 68



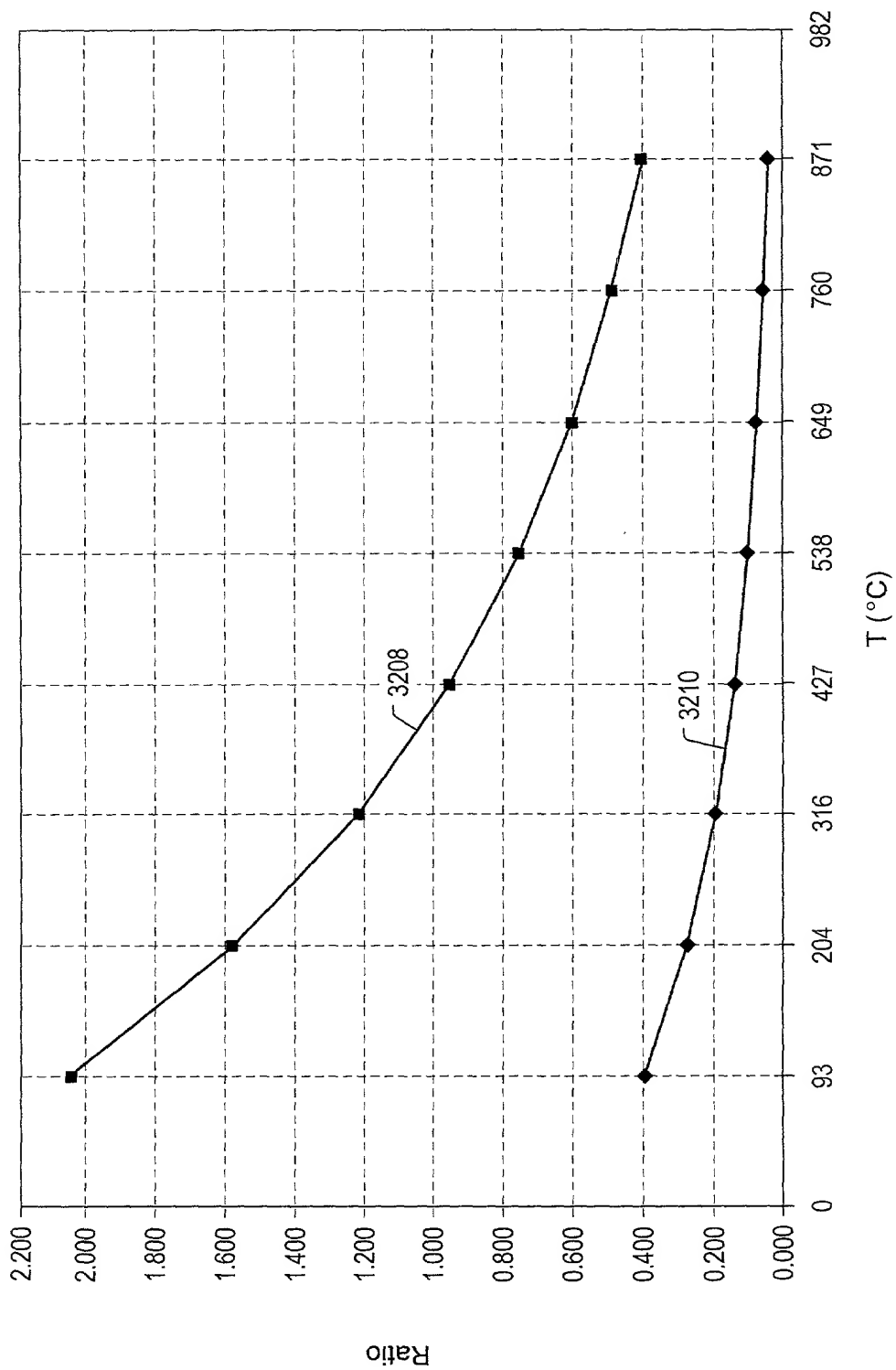


FIG. 69

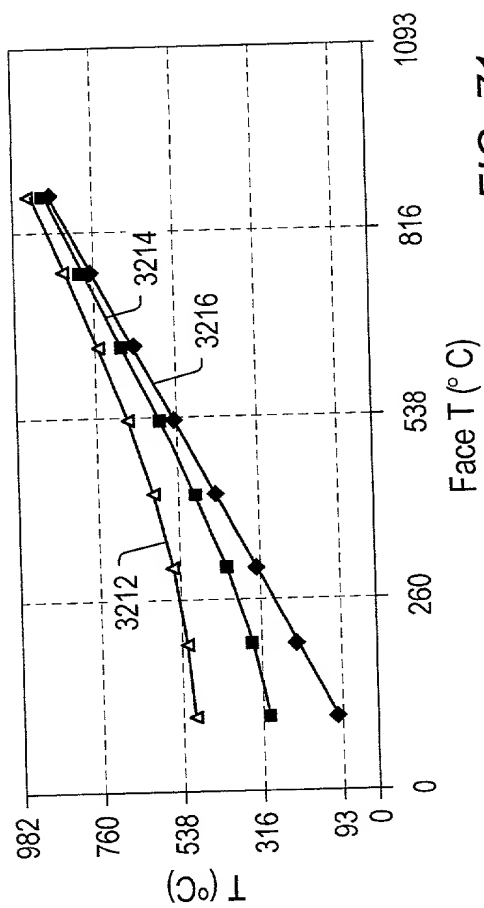


FIG. 71

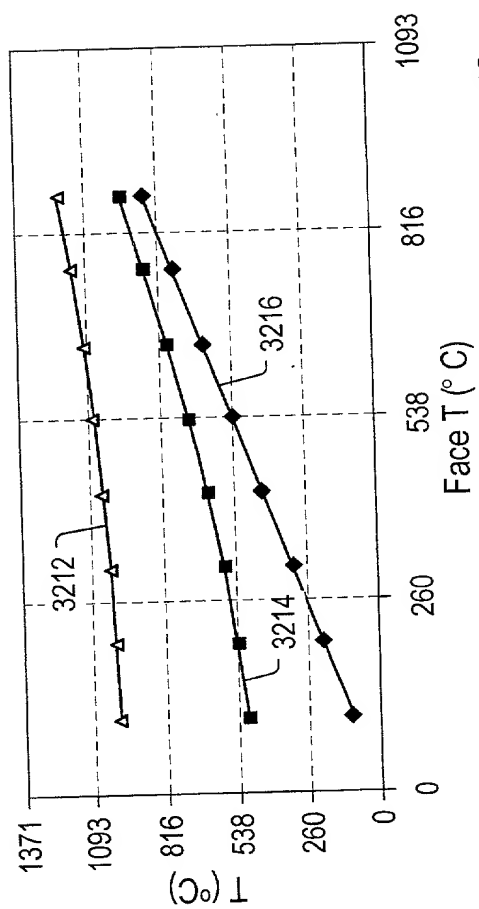


FIG. 73

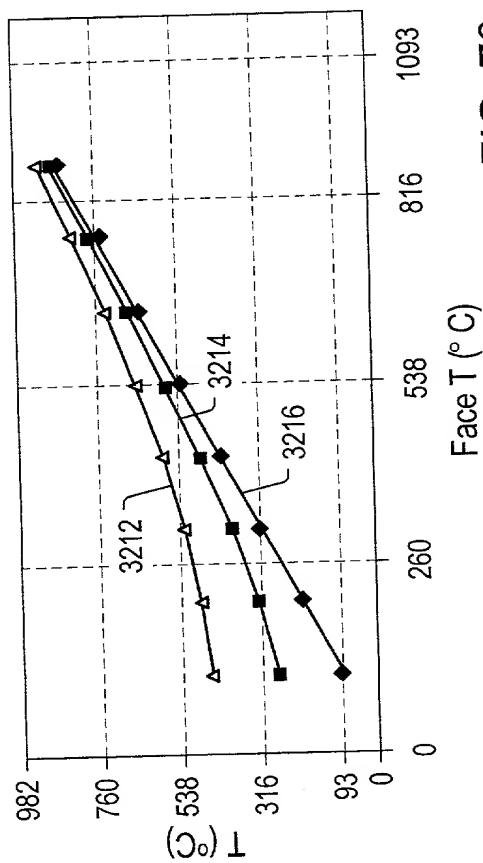


FIG. 70

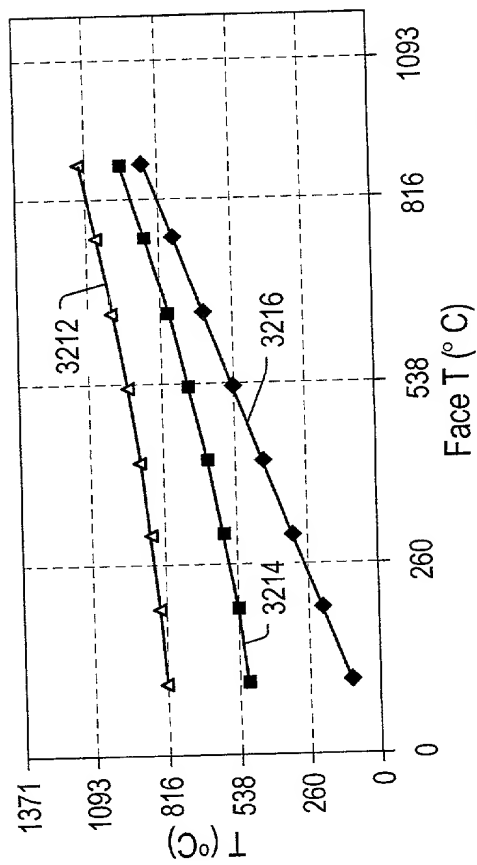


FIG. 72

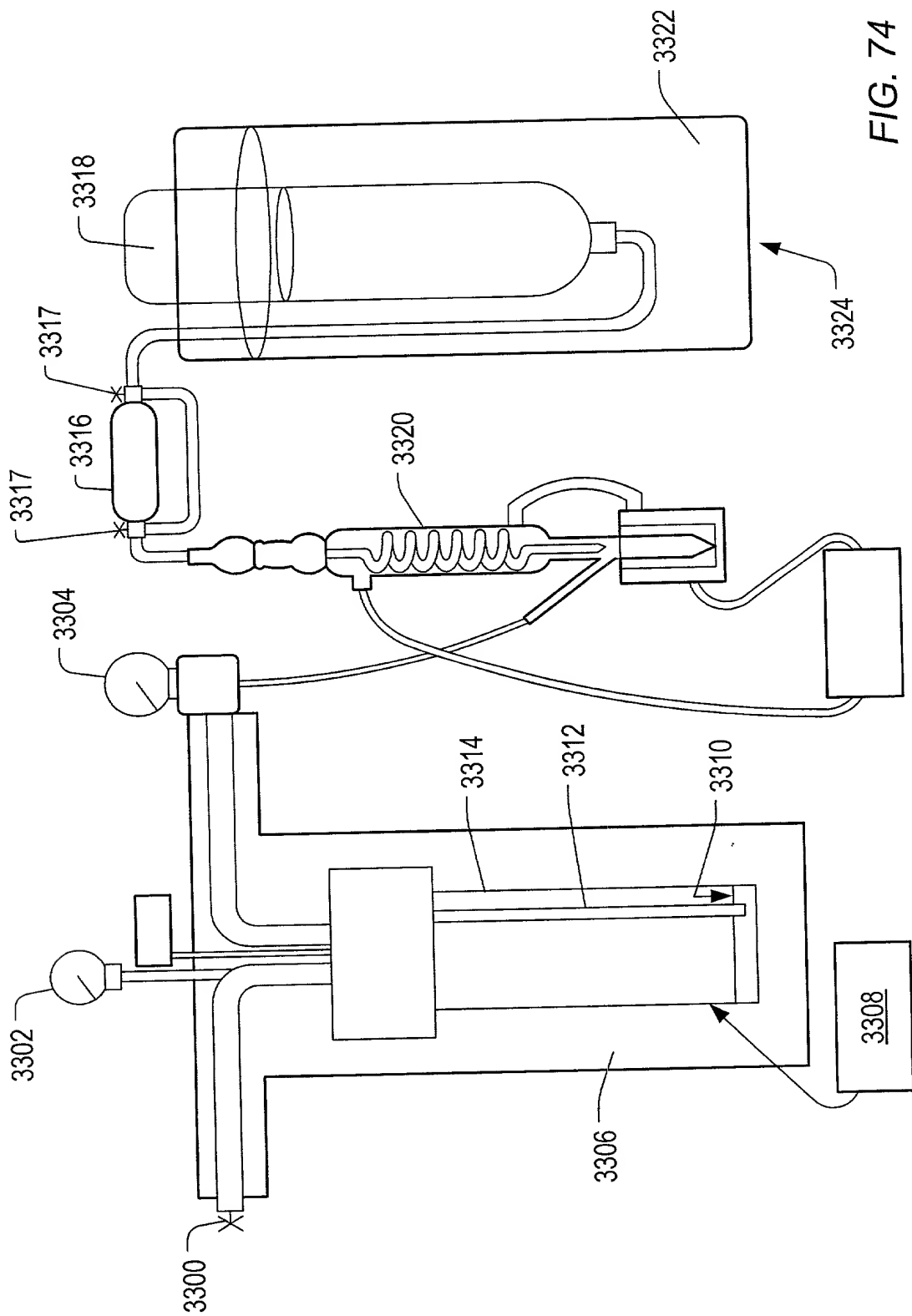


FIG. 74

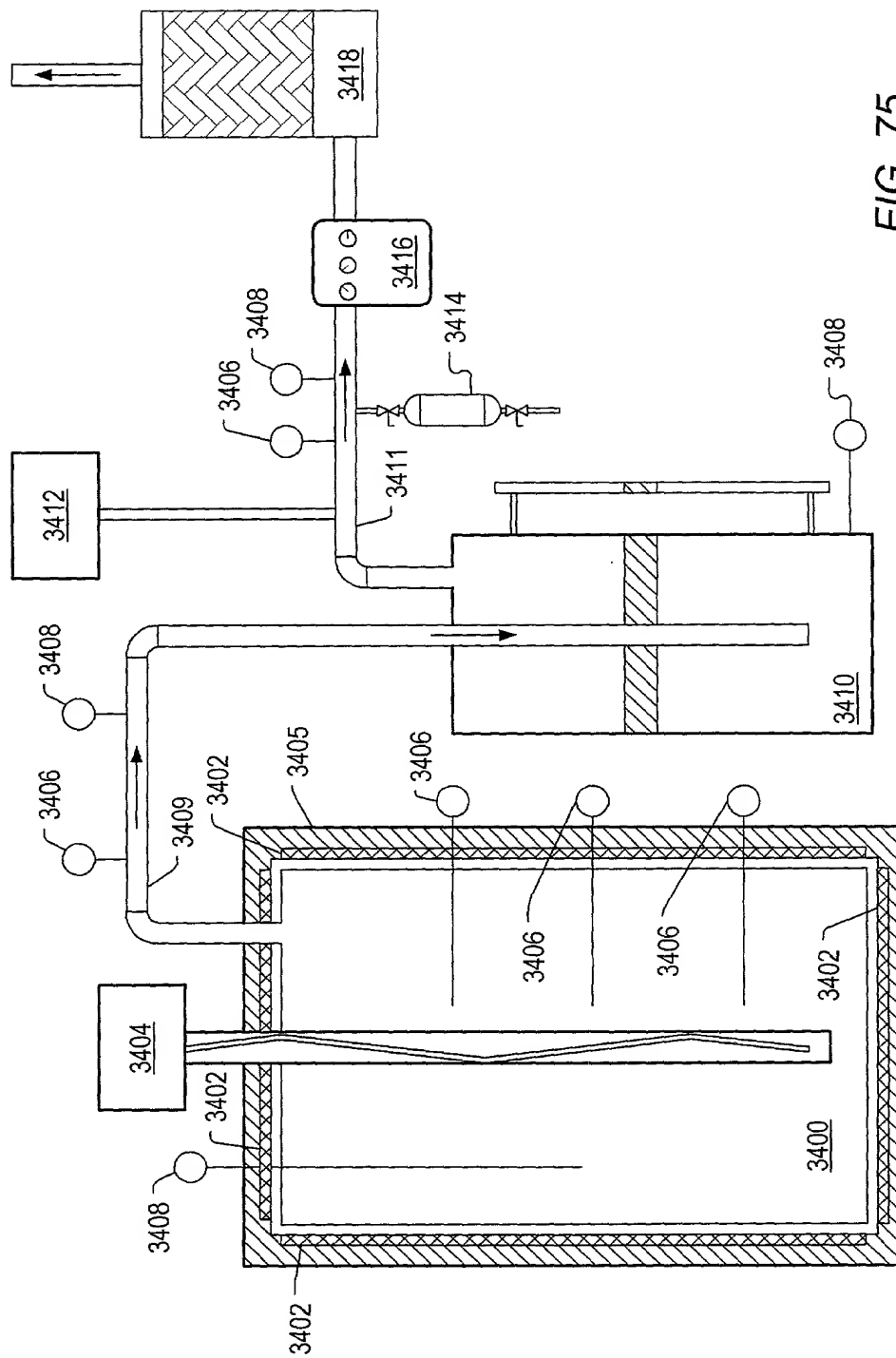


FIG. 75

FIG. 76

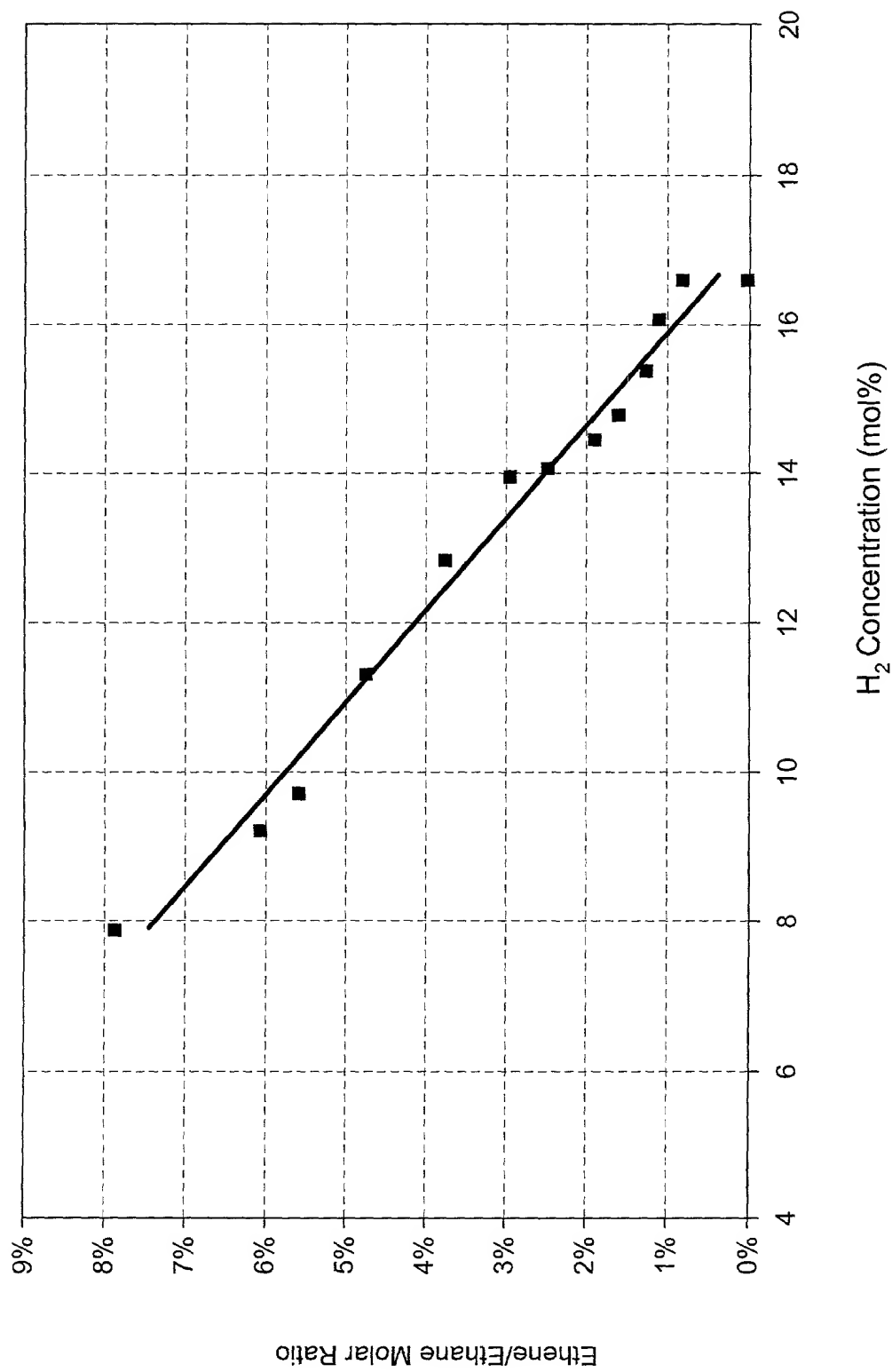
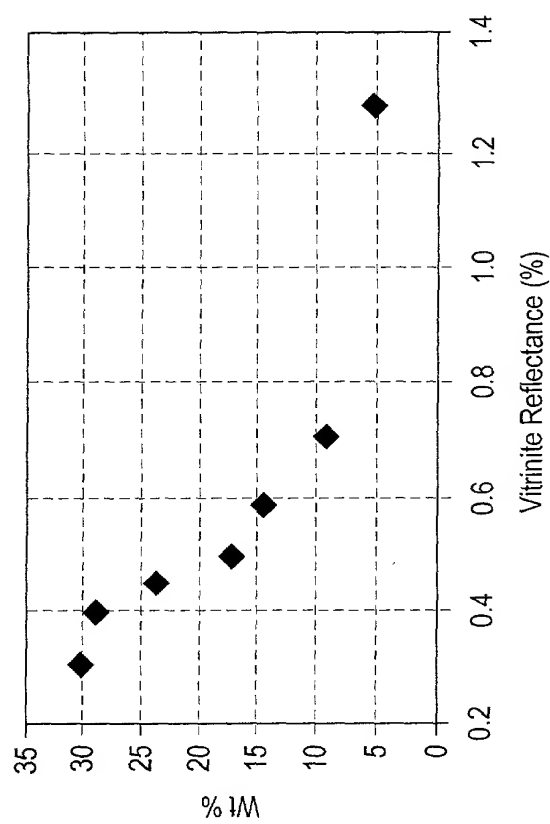
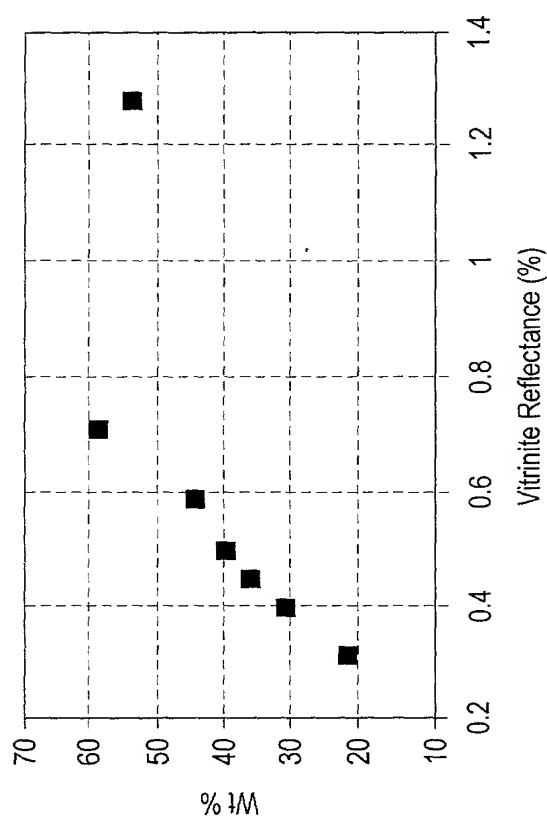
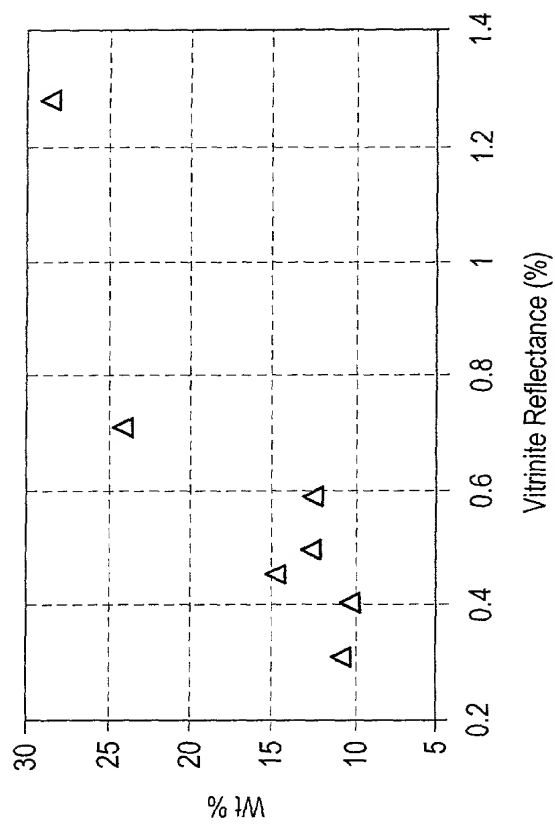
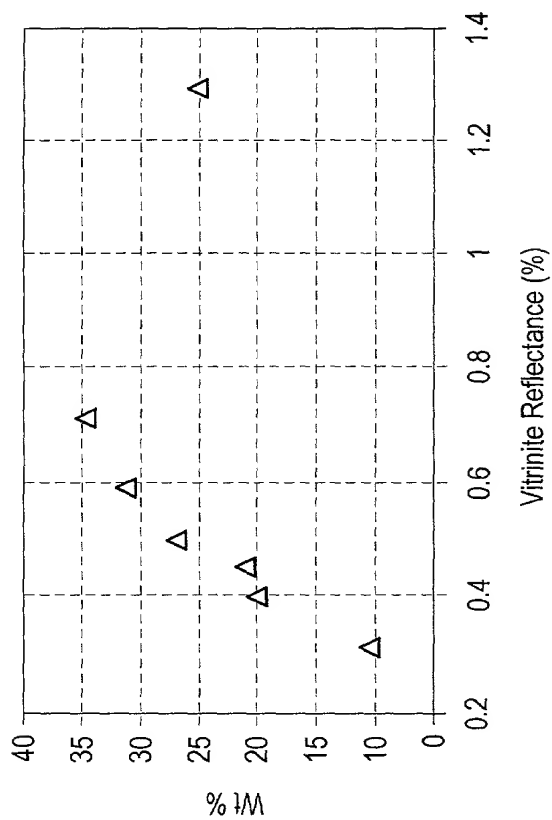


FIG. 76



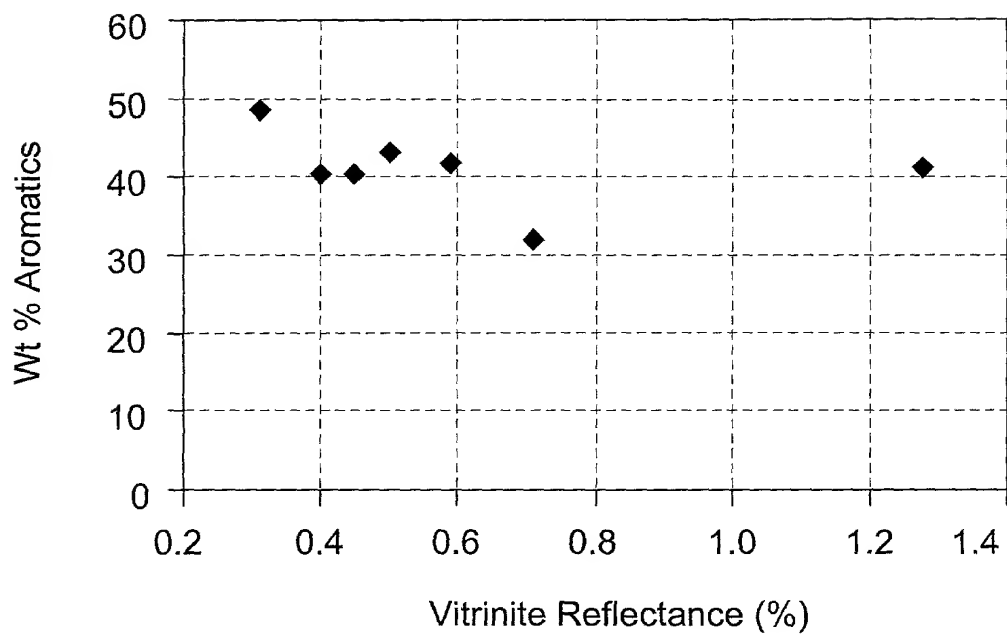


FIG. 81

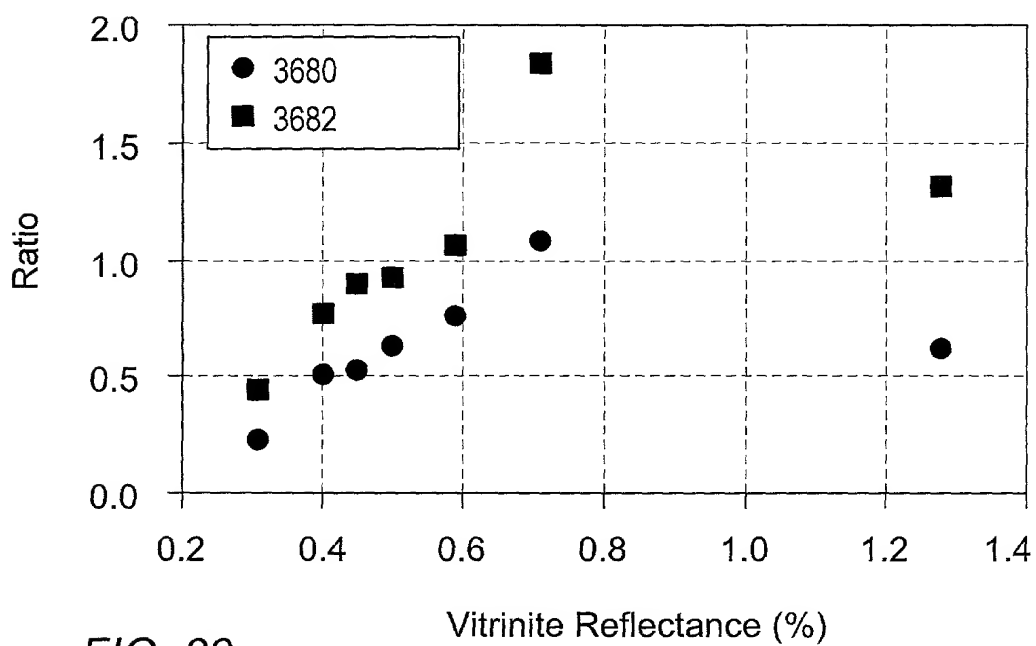


FIG. 82





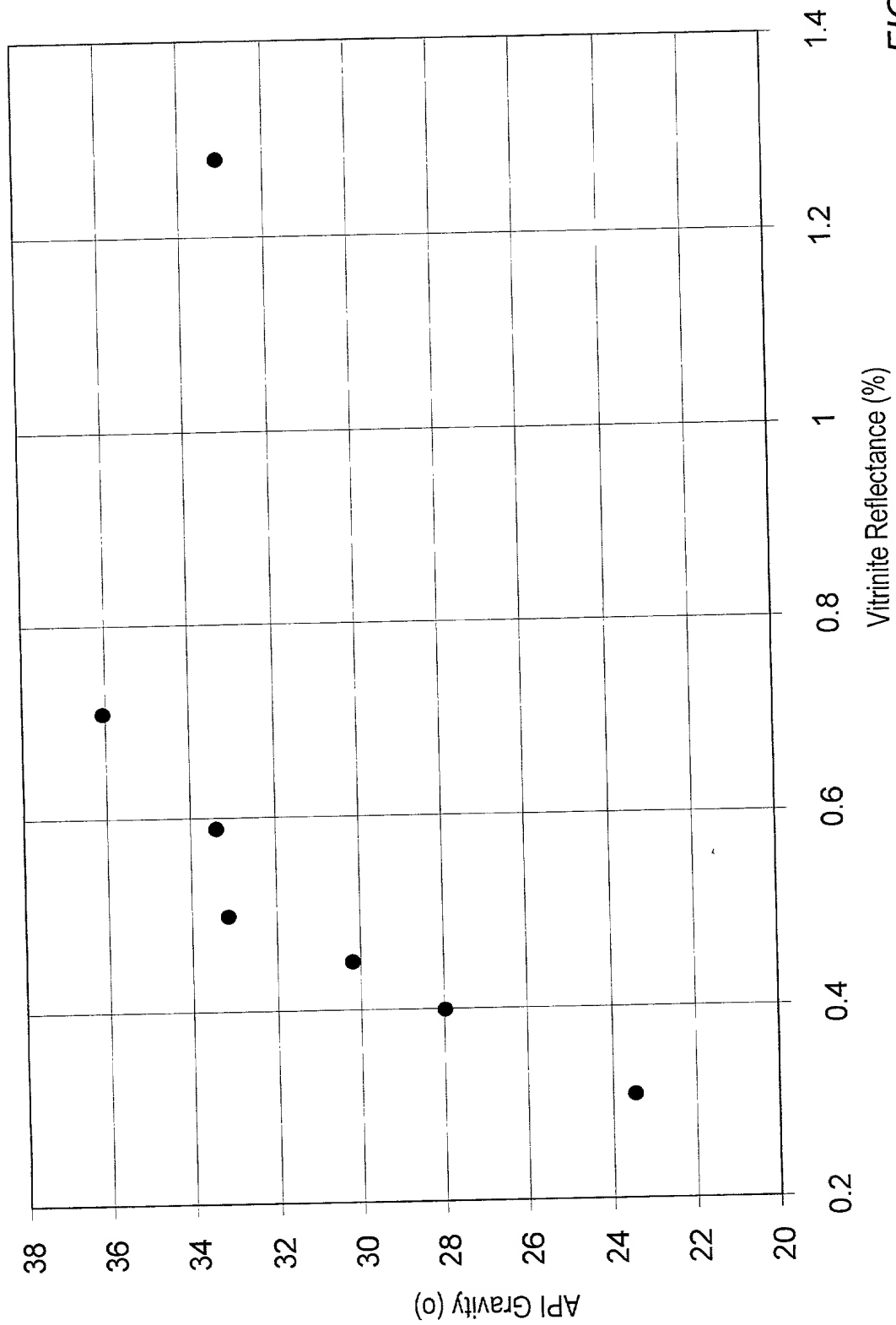
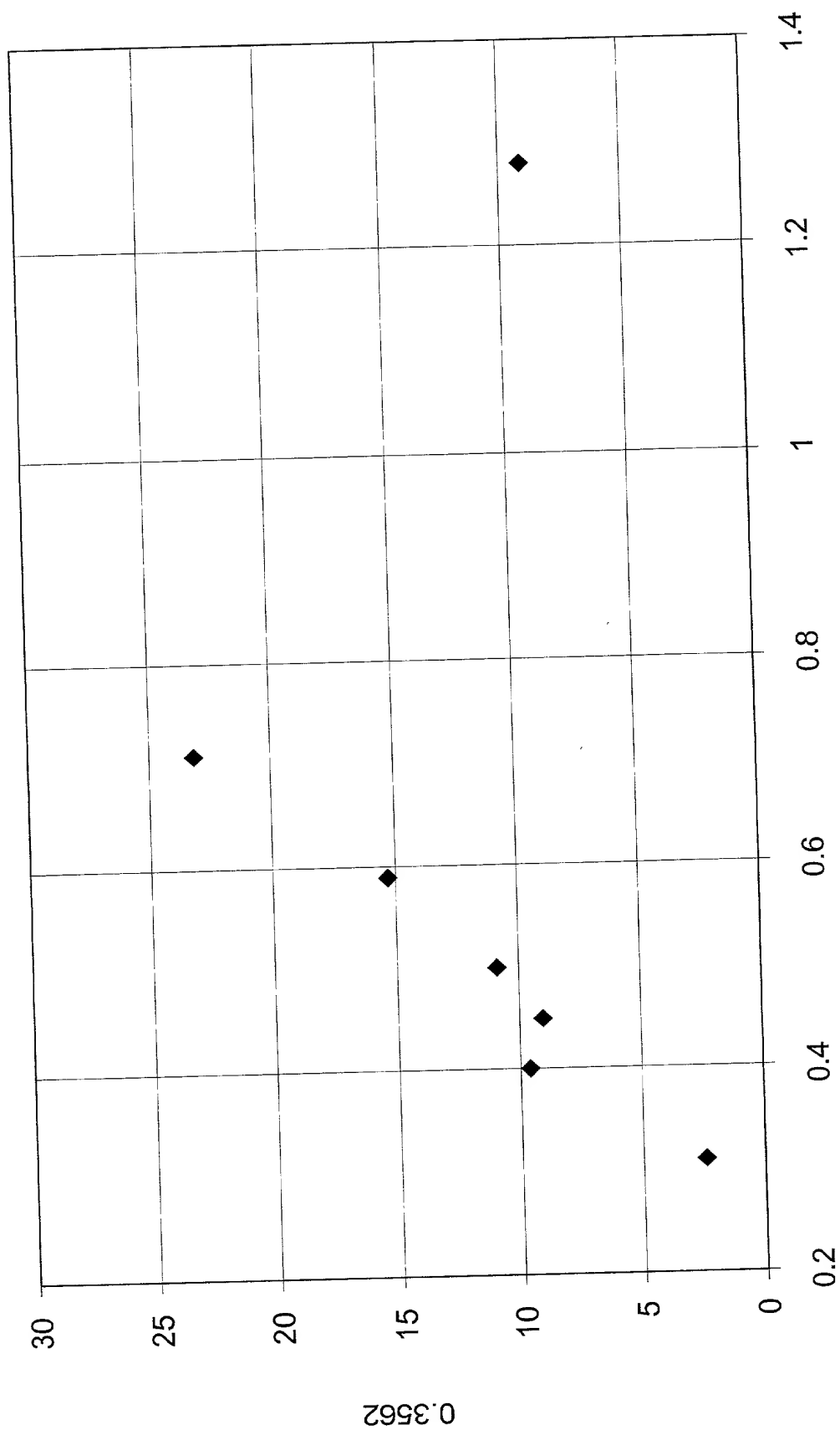


FIG. 87



Vitrinite Reflectance (%)

FIG. 88

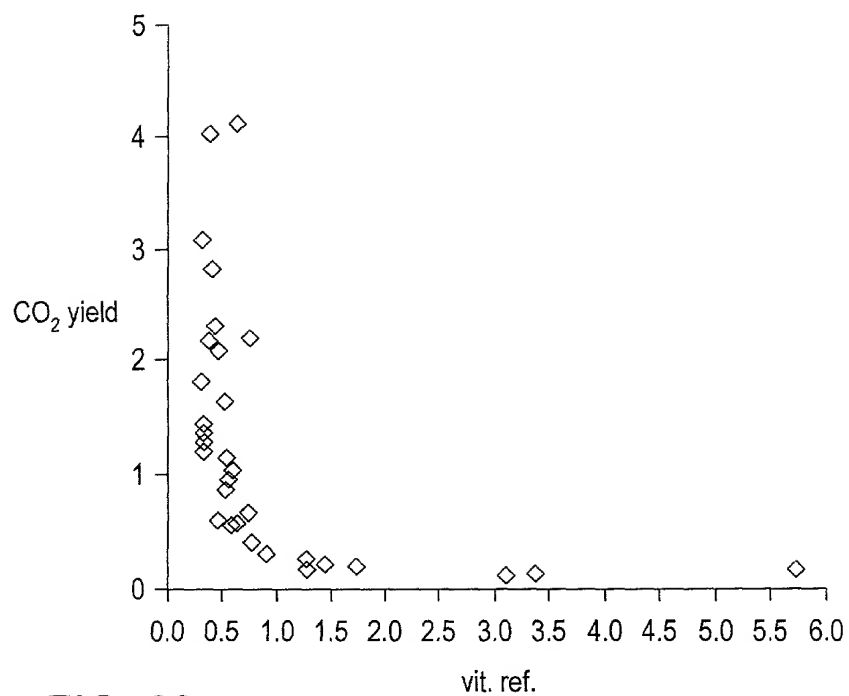


FIG. 89

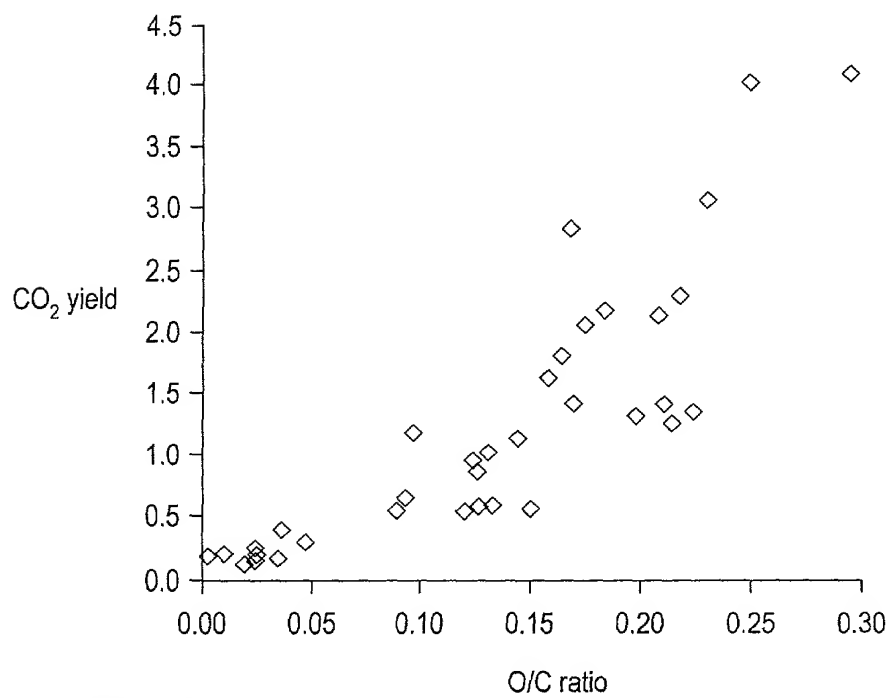


FIG. 90

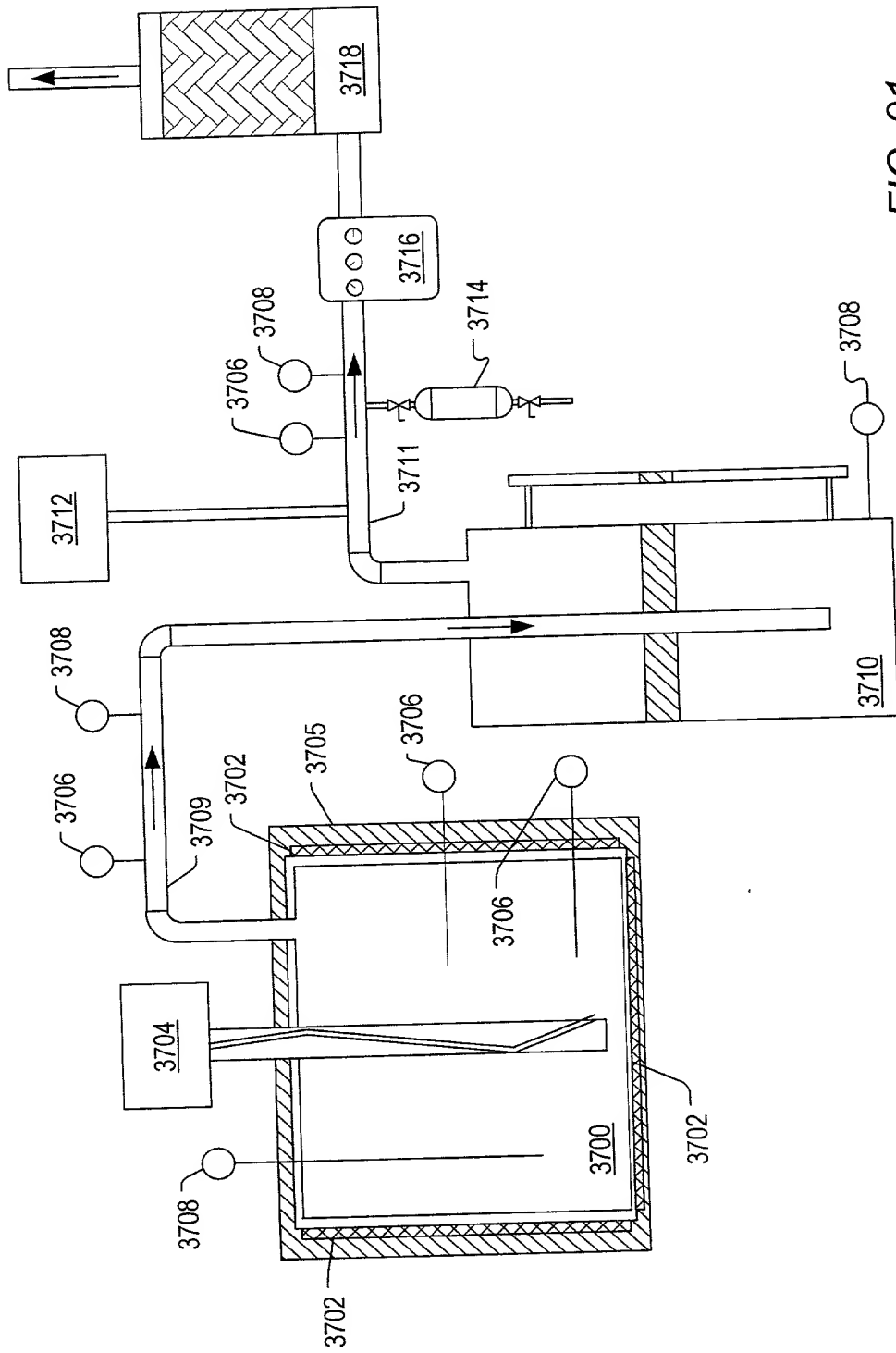


FIG. 91

Parameter	Value	Unit	Source
$\alpha$	0.001	cm <sup>2</sup> /s	Table 1
$\beta$	0.001	cm <sup>2</sup> /s	Table 1
$\gamma$	0.001	cm <sup>2</sup> /s	Table 1
$\delta$	0.001	cm <sup>2</sup> /s	Table 1
$\epsilon$	0.001	cm <sup>2</sup> /s	Table 1
$\zeta$	0.001	cm <sup>2</sup> /s	Table 1
$\eta$	0.001	cm <sup>2</sup> /s	Table 1
$\theta$	0.001	cm <sup>2</sup> /s	Table 1
$\iota$	0.001	cm <sup>2</sup> /s	Table 1
$\kappa$	0.001	cm <sup>2</sup> /s	Table 1
$\lambda$	0.001	cm <sup>2</sup> /s	Table 1
$\mu$	0.001	cm <sup>2</sup> /s	Table 1
$\nu$	0.001	cm <sup>2</sup> /s	Table 1
$\xi$	0.001	cm <sup>2</sup> /s	Table 1
$\omicron$	0.001	cm <sup>2</sup> /s	Table 1
$\pi$	0.001	cm <sup>2</sup> /s	Table 1
$\rho$	0.001	cm <sup>2</sup> /s	Table 1
$\sigma$	0.001	cm <sup>2</sup> /s	Table 1
$\tau$	0.001	cm <sup>2</sup> /s	Table 1
$\upsilon$	0.001	cm <sup>2</sup> /s	Table 1
$\phi$	0.001	cm <sup>2</sup> /s	Table 1
$\chi$	0.001	cm <sup>2</sup> /s	Table 1
$\psi$	0.001	cm <sup>2</sup> /s	Table 1
$\omega$	0.001	cm <sup>2</sup> /s	Table 1
$\varphi$	0.001	cm <sup>2</sup> /s	Table 1
$\vartheta$	0.001	cm <sup>2</sup> /s	Table 1
$\varpi$	0.001	cm <sup>2</sup> /s	Table 1
$\varsigma$	0.001	cm <sup>2</sup> /s	Table 1
$\eta$	0.001	cm <sup>2</sup> /s	Table 1
$\theta$	0.001	cm <sup>2</sup> /s	Table 1
$\iota$	0.001	cm <sup>2</sup> /s	Table 1
$\kappa$	0.001	cm <sup>2</sup> /s	Table 1
$\lambda$	0.001	cm <sup>2</sup> /s	Table 1
$\mu$	0.001	cm <sup>2</sup> /s	Table 1
$\nu$	0.001	cm <sup>2</sup> /s	Table 1
$\xi$	0.001	cm <sup>2</sup> /s	Table 1
$\omicron$	0.001	cm <sup>2</sup> /s	Table 1
$\pi$	0.001	cm <sup>2</sup> /s	Table 1
$\rho$	0.001	cm <sup>2</sup> /s	Table 1
$\sigma$	0.001	cm <sup>2</sup> /s	Table 1
$\tau$	0.001	cm <sup>2</sup> /s	Table 1
$\upsilon$	0.001	cm <sup>2</sup> /s	Table 1
$\phi$	0.001	cm <sup>2</sup> /s	Table 1
$\chi$	0.001	cm <sup>2</sup> /s	Table 1
$\psi$	0.001	cm <sup>2</sup> /s	Table 1
$\omega$	0.001	cm <sup>2</sup> /s	Table 1
$\varphi$	0.001	cm <sup>2</sup> /s	Table 1
$\vartheta$	0.001	cm <sup>2</sup> /s	Table 1
$\varpi$	0.001	cm <sup>2</sup> /s	Table 1
$\varsigma$	0.001	cm <sup>2</sup> /s	Table 1
$\eta$	0.001	cm <sup>2</sup> /s	Table 1
$\theta$	0.001	cm <sup>2</sup> /s	Table 1
$\iota$	0.001	cm <sup>2</sup> /s	Table 1
$\kappa$	0.001	cm <sup>2</sup> /s	Table 1
$\lambda$	0.001	cm <sup>2</sup> /s	Table 1
$\mu$	0.001	cm <sup>2</sup> /s	Table 1
$\nu$	0.001	cm <sup>2</sup> /s	Table 1
$\xi$	0.001	cm <sup>2</sup> /s	Table 1
$\omicron$	0.001	cm <sup>2</sup> /s	Table 1
$\pi$	0.001	cm <sup>2</sup> /s	Table 1
$\rho$	0.001	cm <sup>2</sup> /s	Table 1
$\sigma$	0.001	cm <sup>2</sup> /s	Table 1
$\tau$	0.001	cm <sup>2</sup> /s	Table 1
$\upsilon$	0.001	cm <sup>2</sup> /s	Table 1
$\phi$	0.001	cm <sup>2</sup> /s	Table 1
$\chi$	0.001	cm <sup>2</sup> /s	Table 1
$\psi$	0.001	cm <sup>2</sup> /s	Table 1
$\omega$	0.001	cm <sup>2</sup> /s	Table 1
$\varphi$	0.001	cm <sup>2</sup> /s	Table 1
$\vartheta$	0.001	cm <sup>2</sup> /s	Table 1
$\varpi$	0.001	cm <sup>2</sup> /s	Table 1
$\varsigma$	0.001	cm <sup>2</sup> /s	Table 1
$\eta$	0.001	cm <sup>2</sup> /s	Table 1
$\theta$	0.001	cm <sup>2</sup> /s	Table 1
$\iota$	0.001	cm <sup>2</sup> /s	Table 1
$\kappa$	0.001	cm <sup>2</sup> /s	Table 1

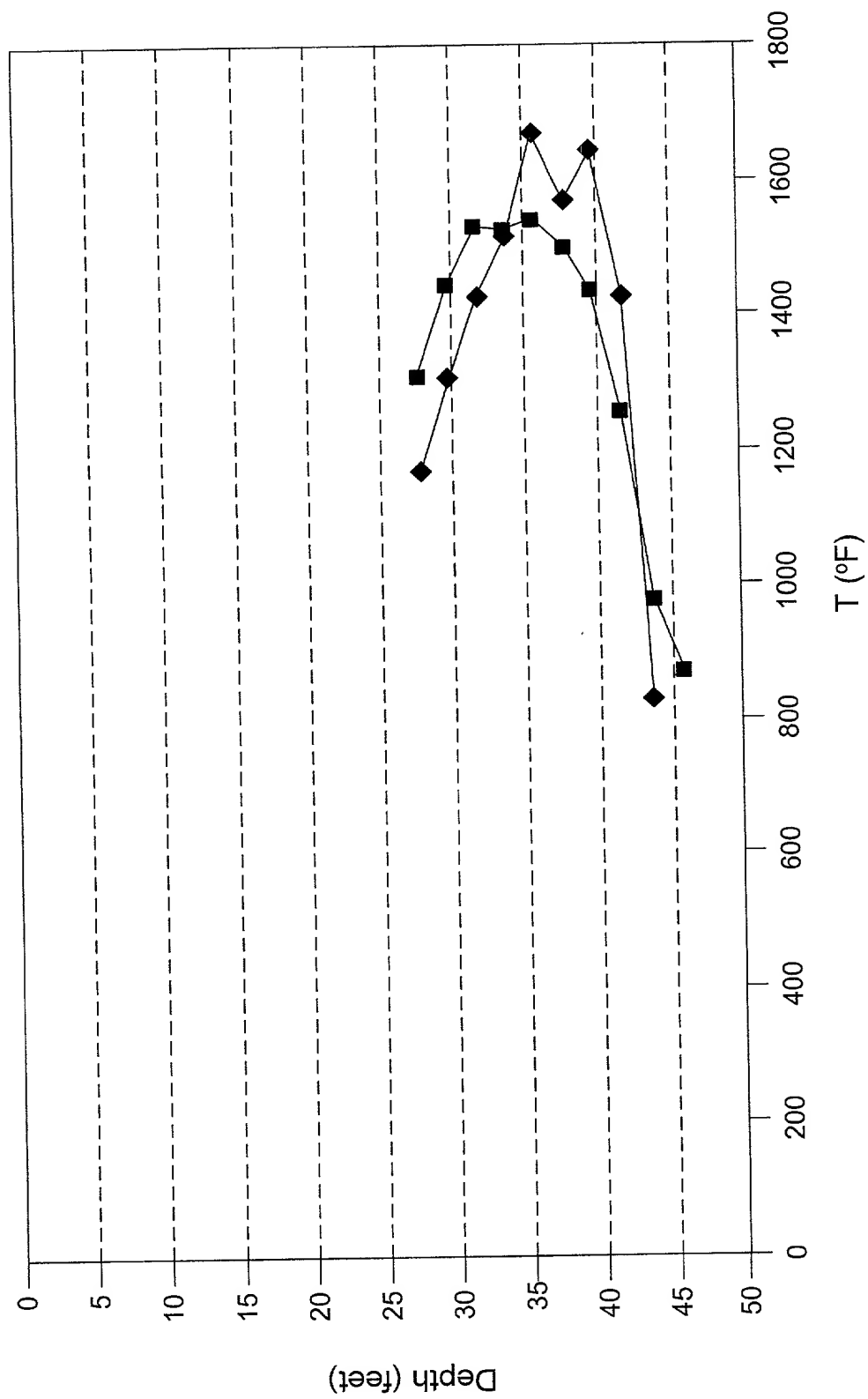


FIG. 92

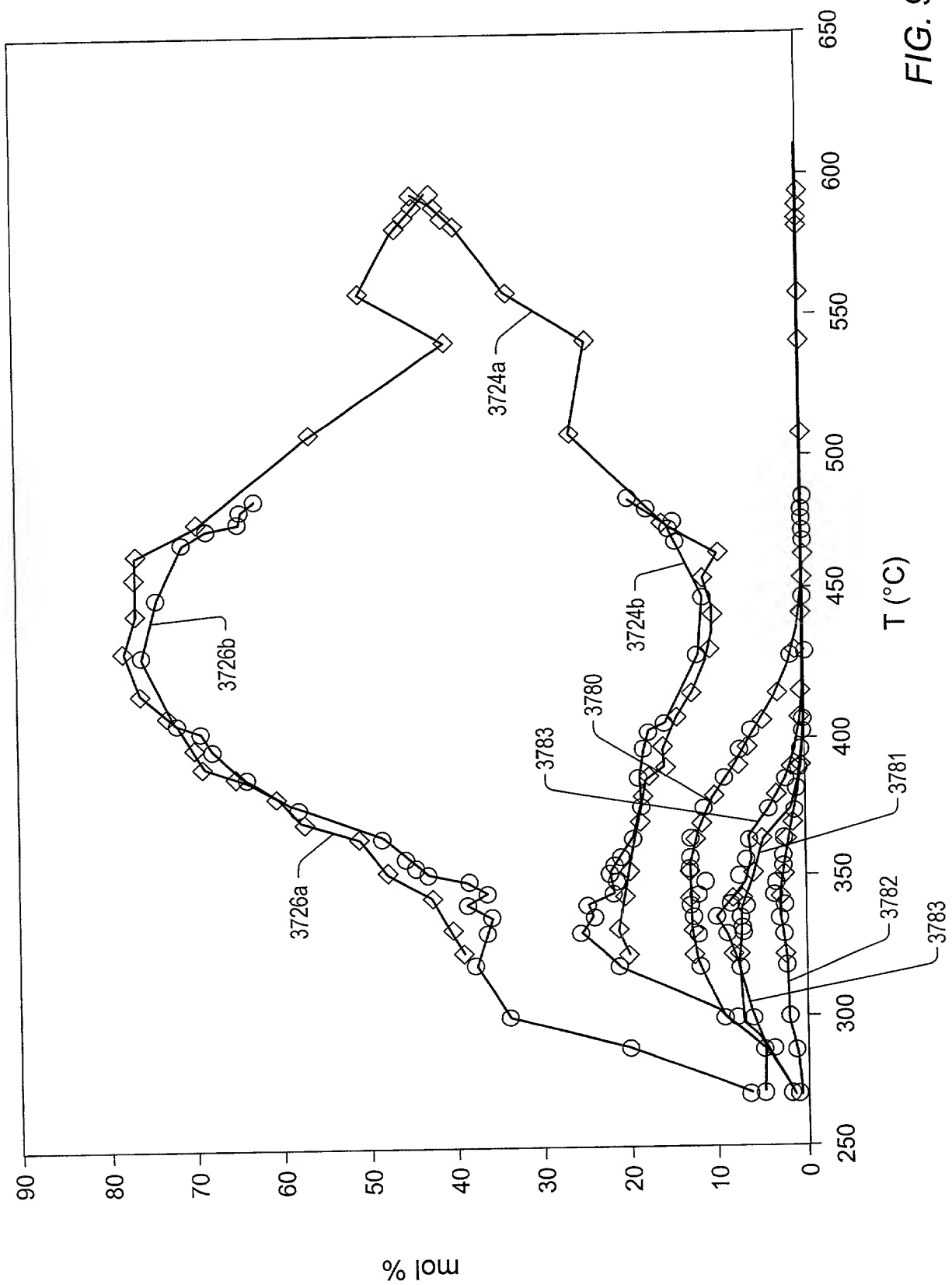


FIG. 93

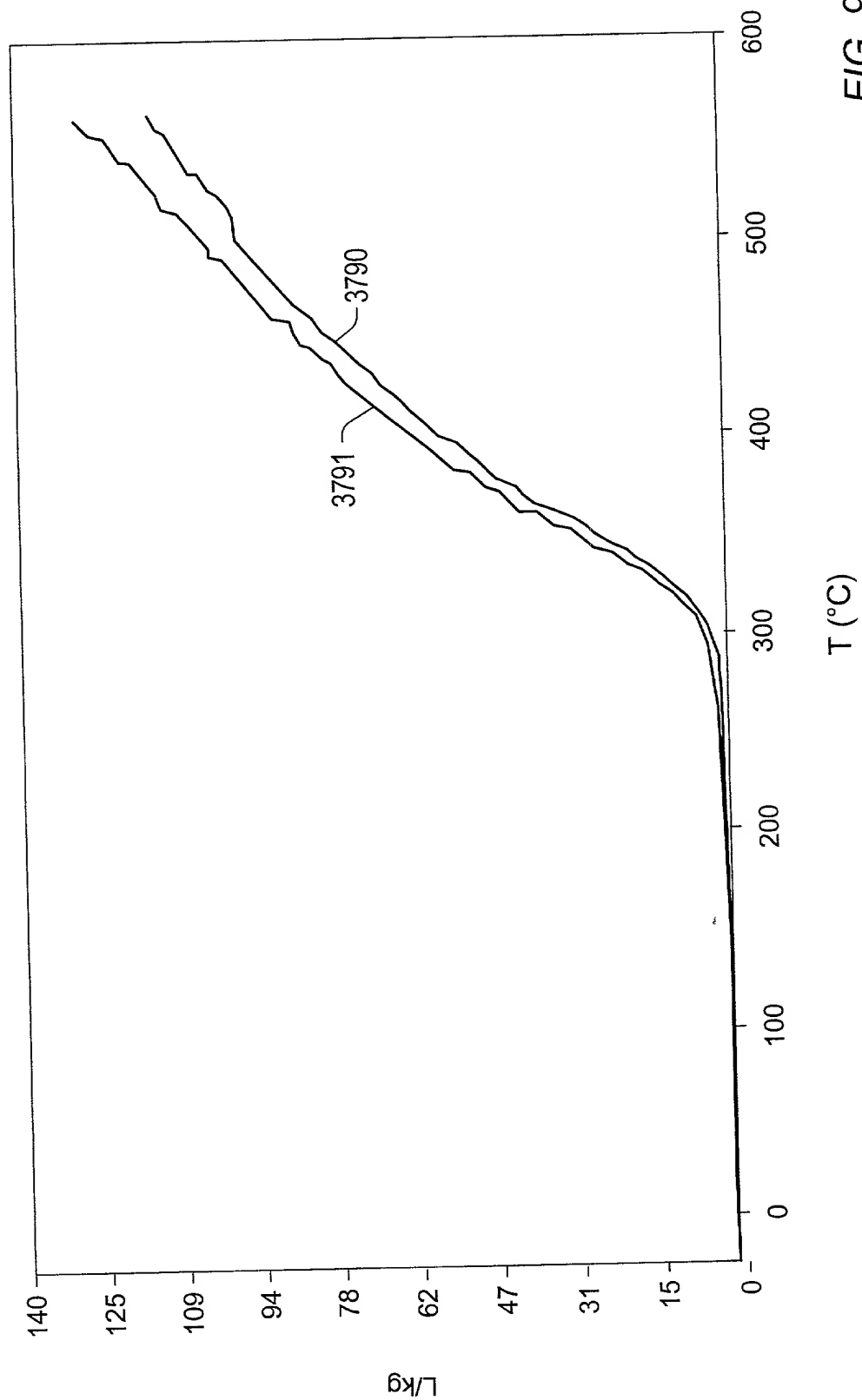


FIG. 94

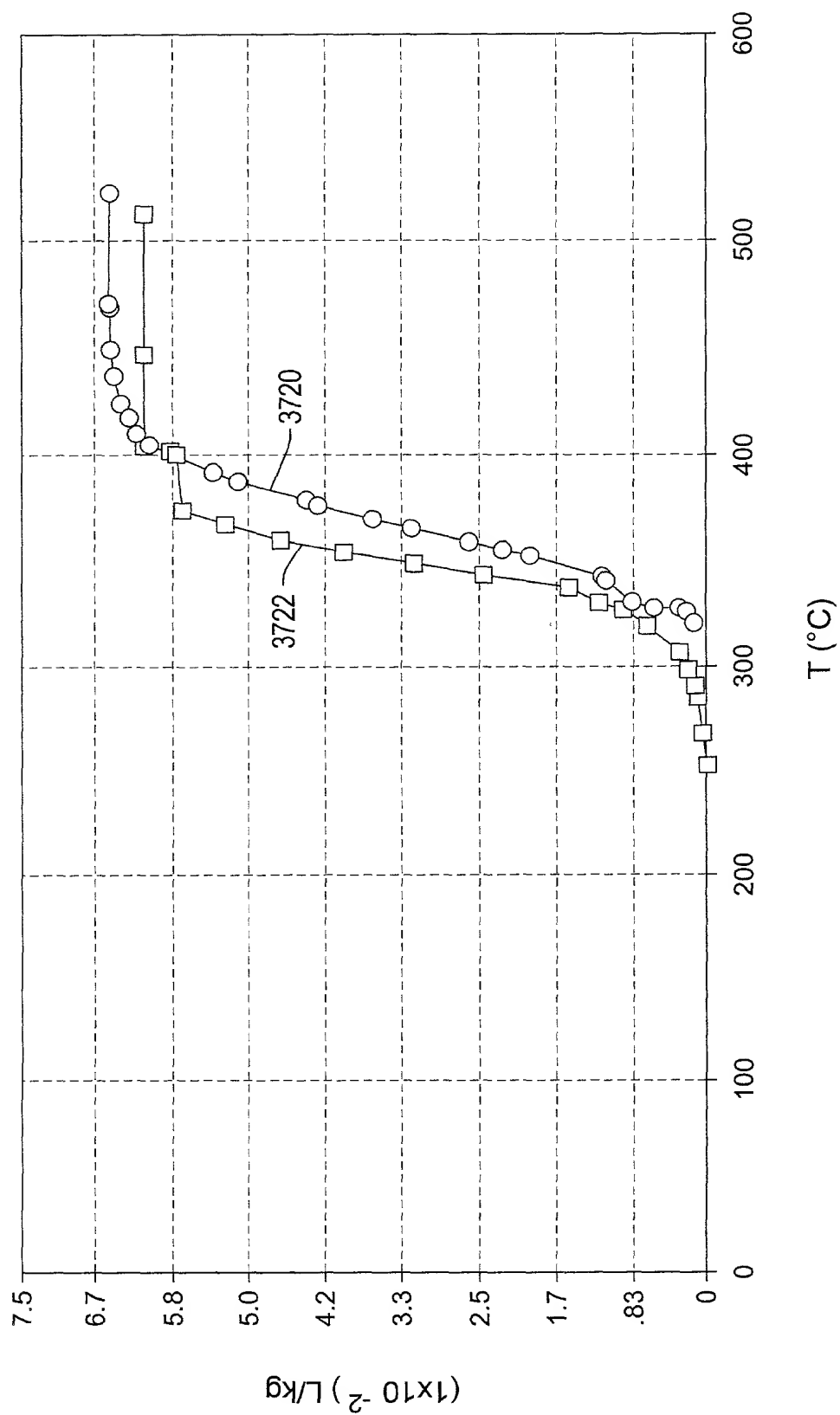


FIG. 95



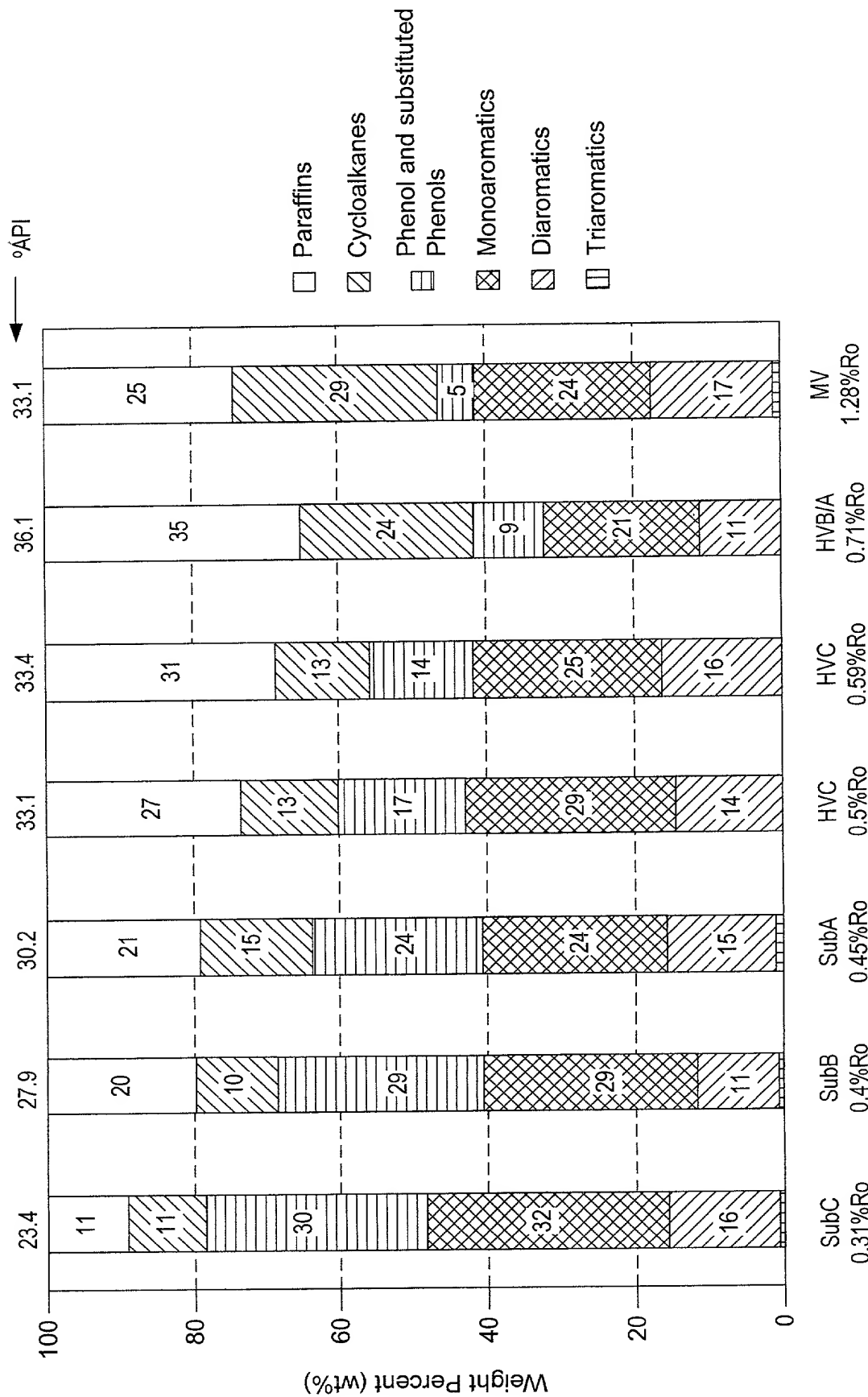


FIG. 96

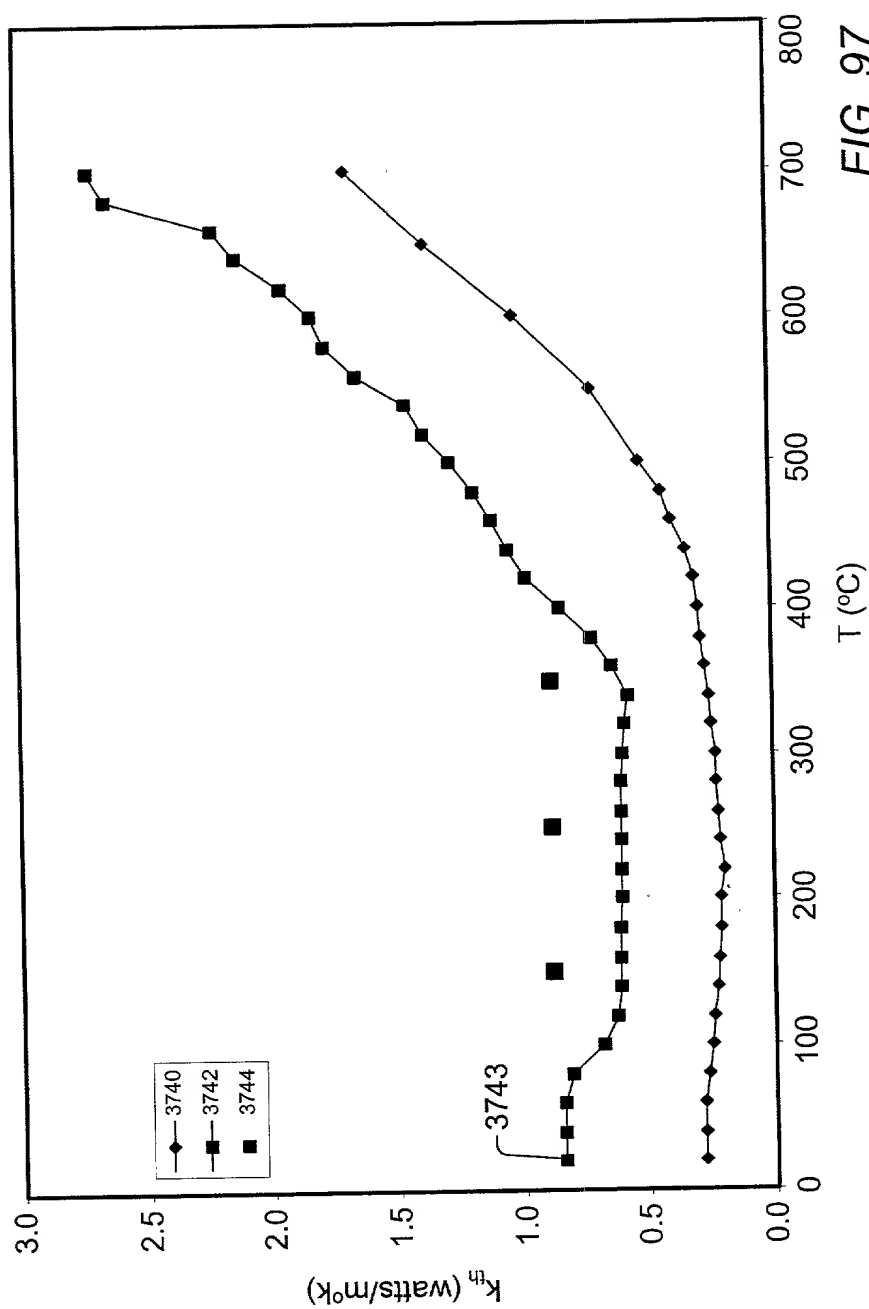


FIG. 97

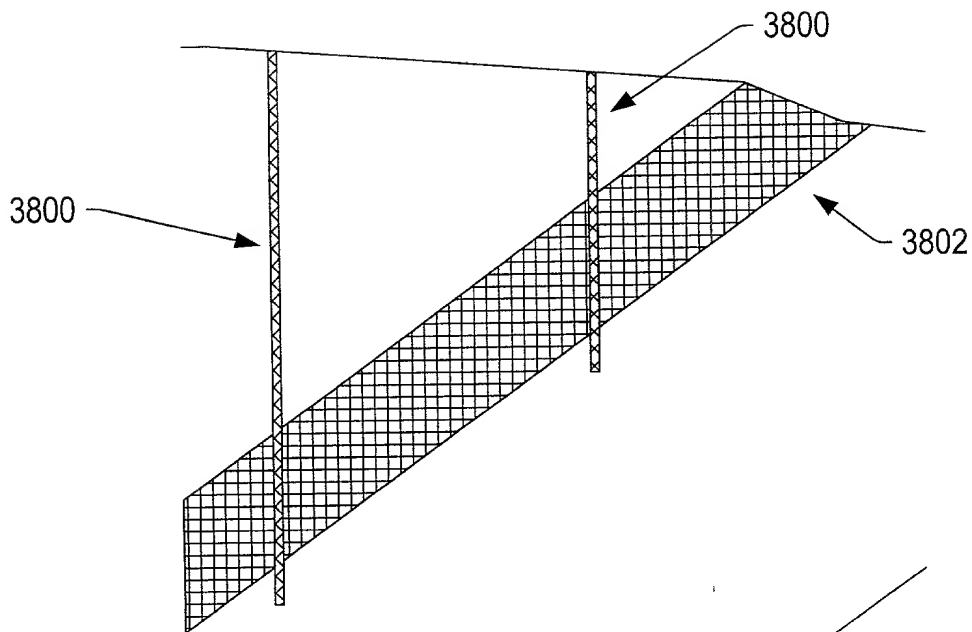


FIG. 98

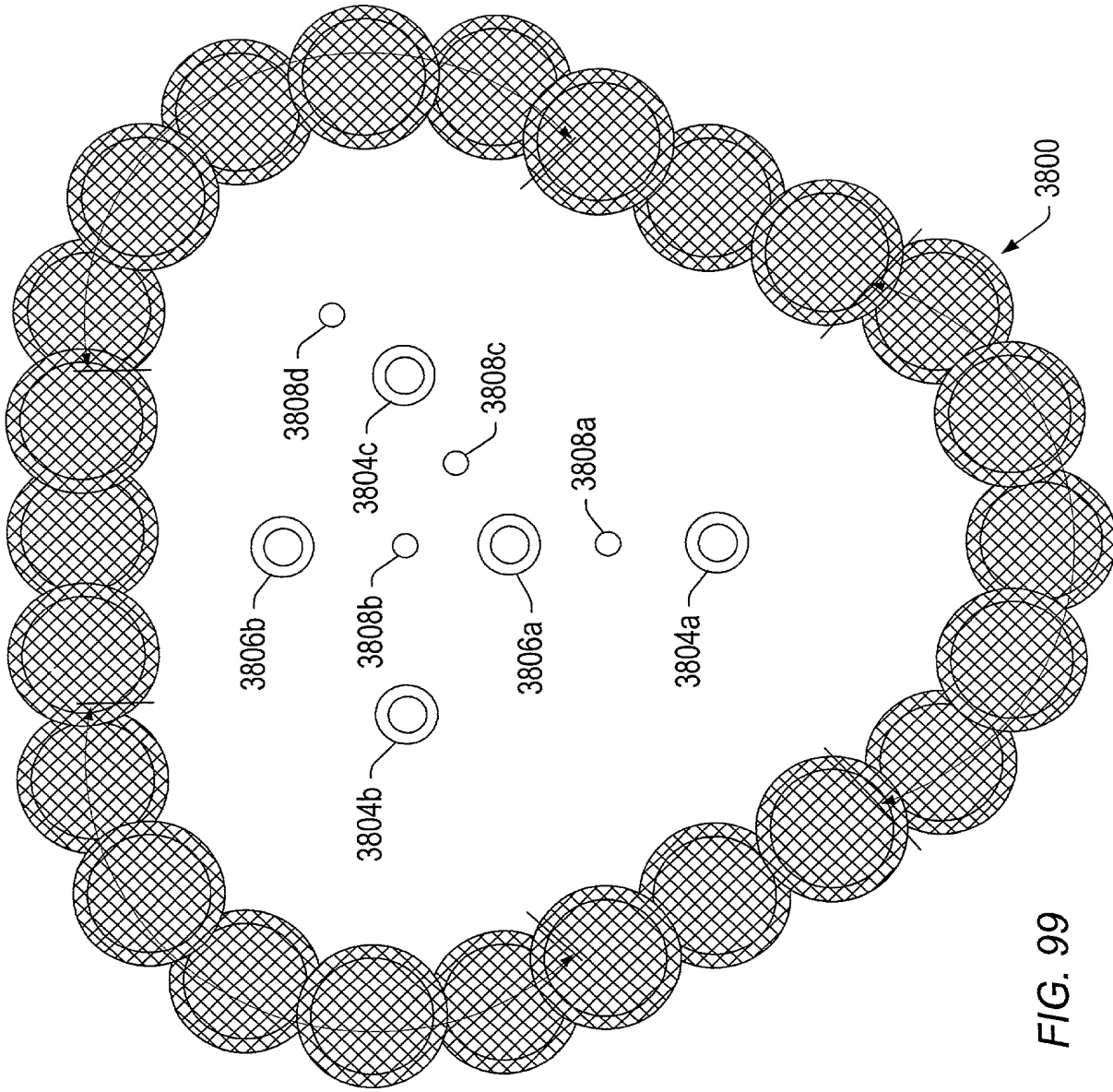


FIG. 99

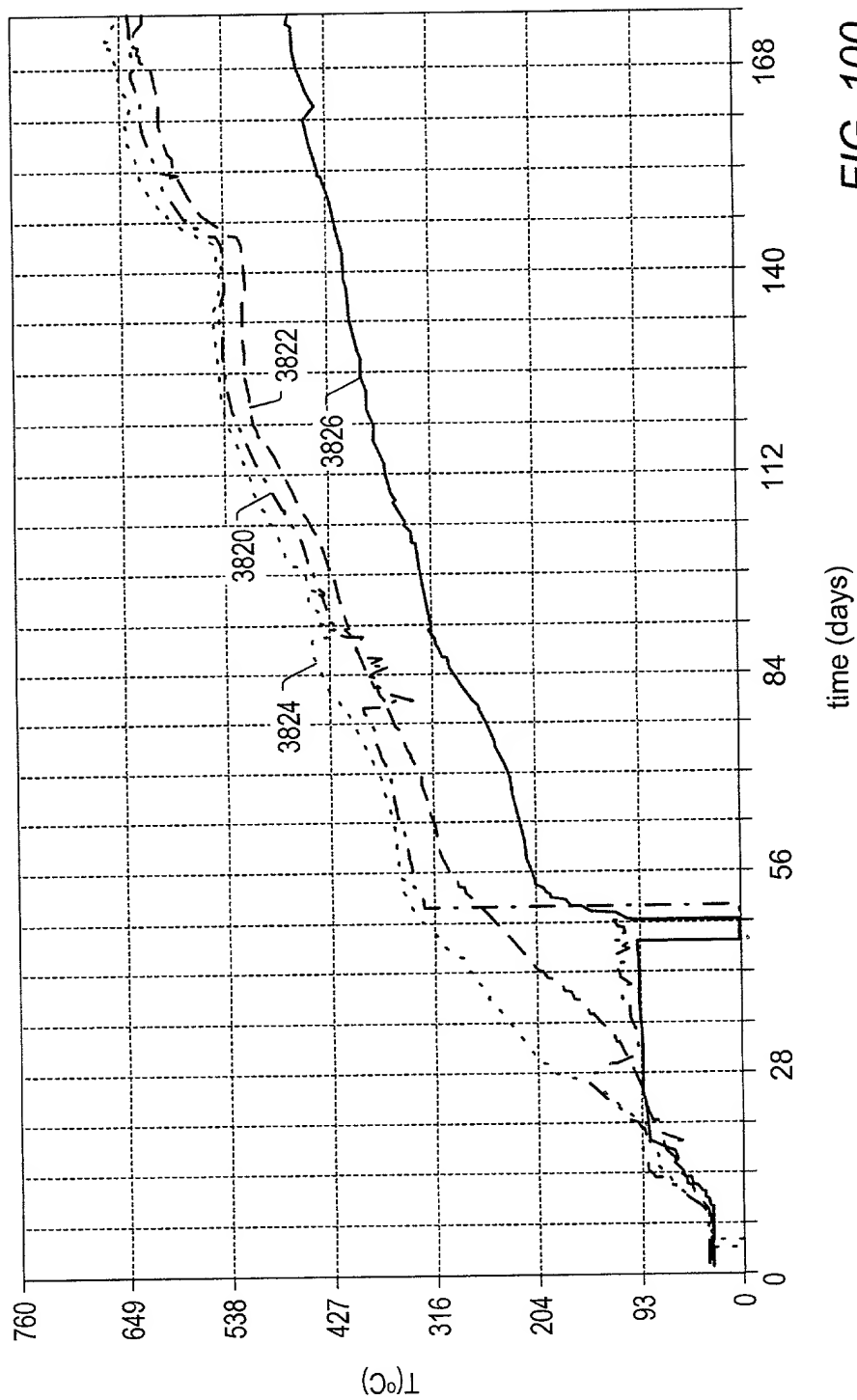


FIG. 100

FIG. 101

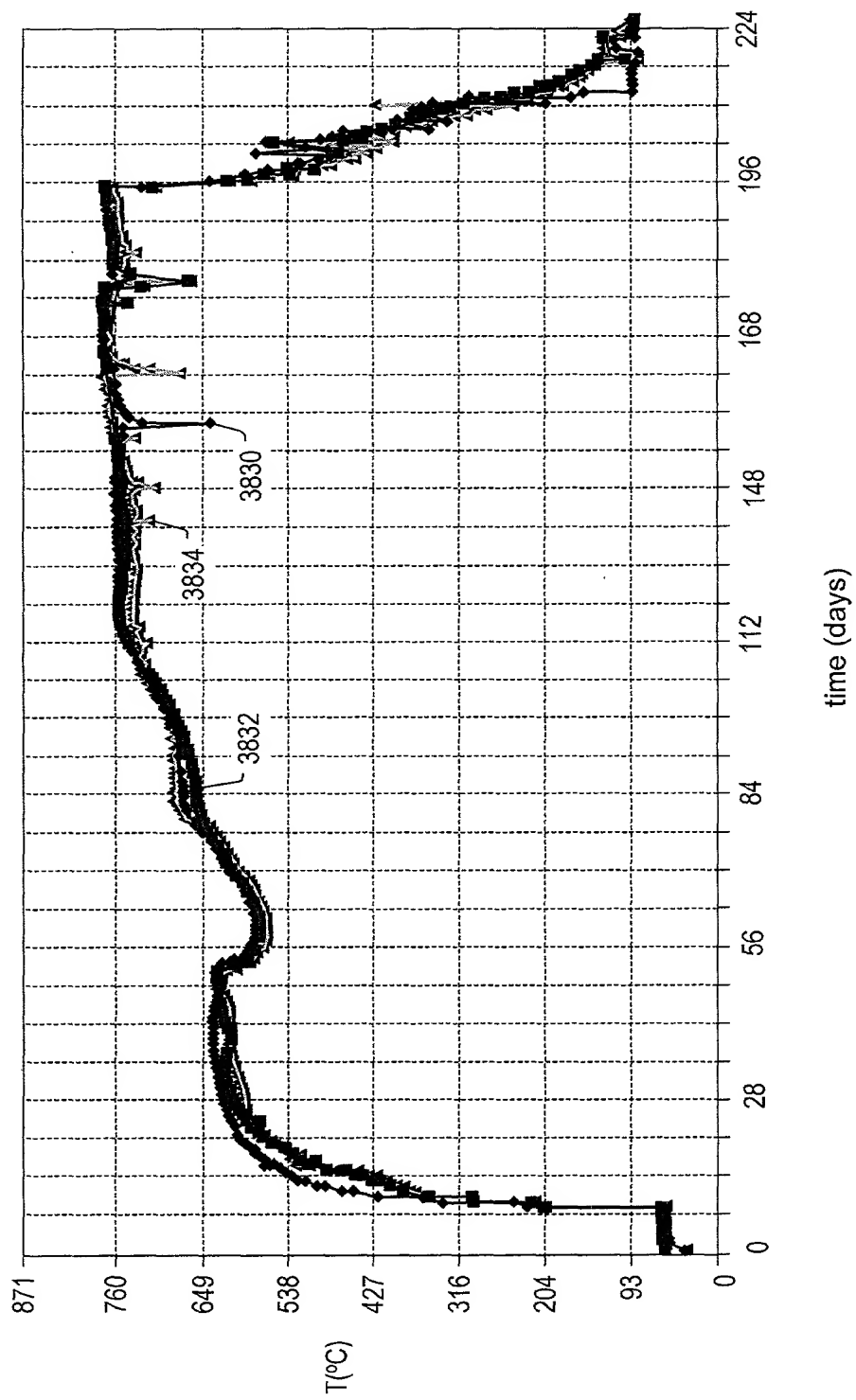


FIG. 101

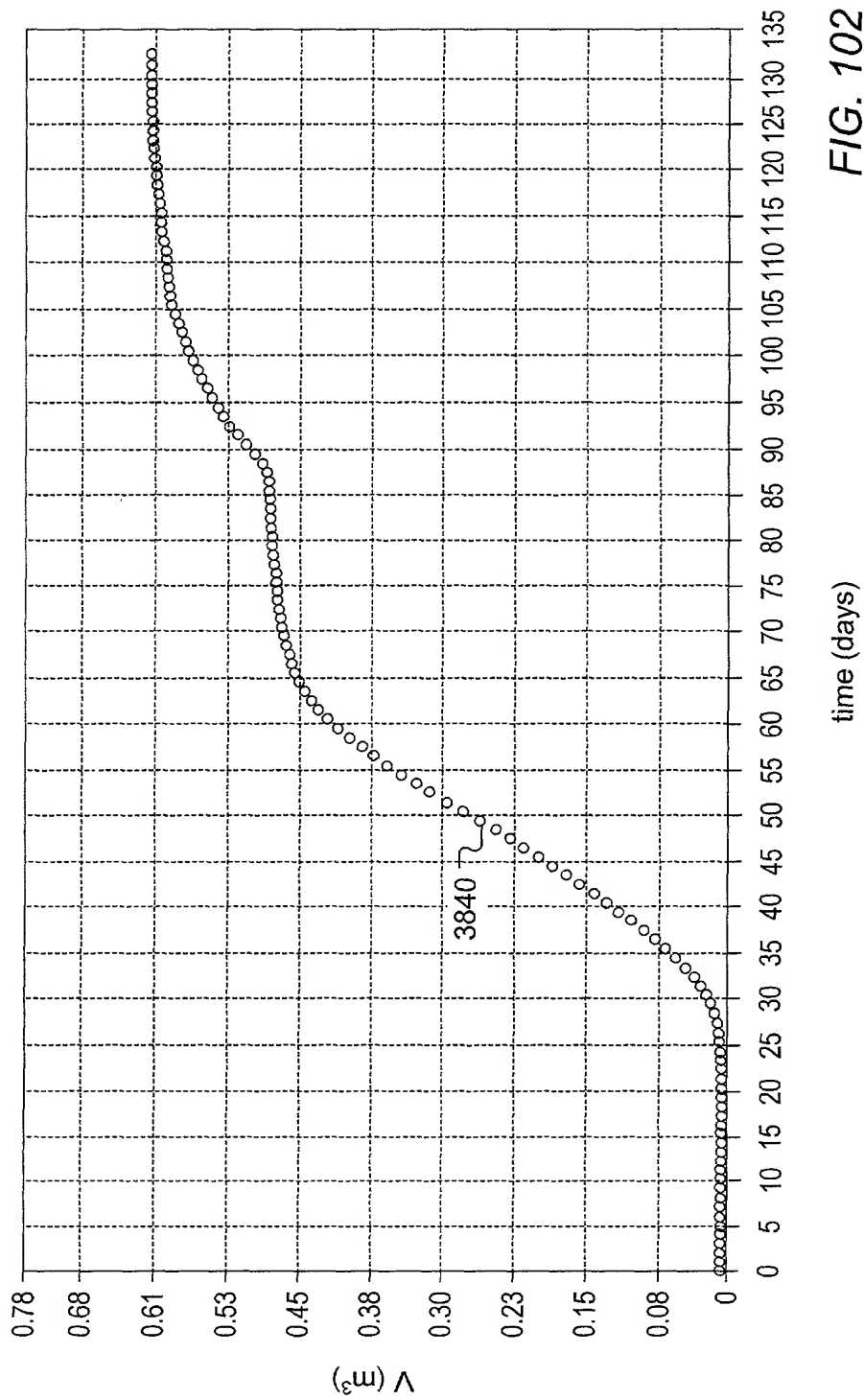


FIG. 102

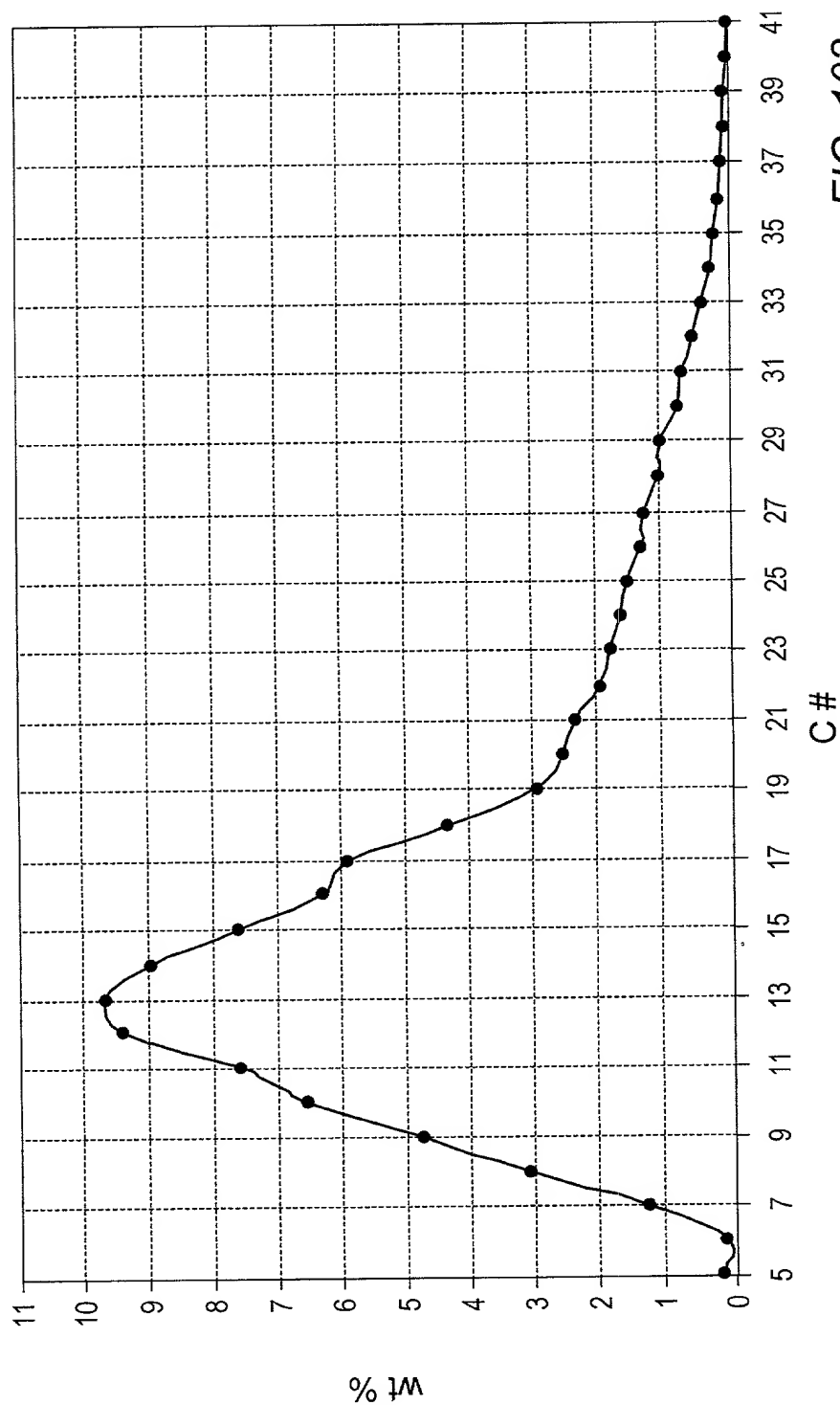


FIG. 103



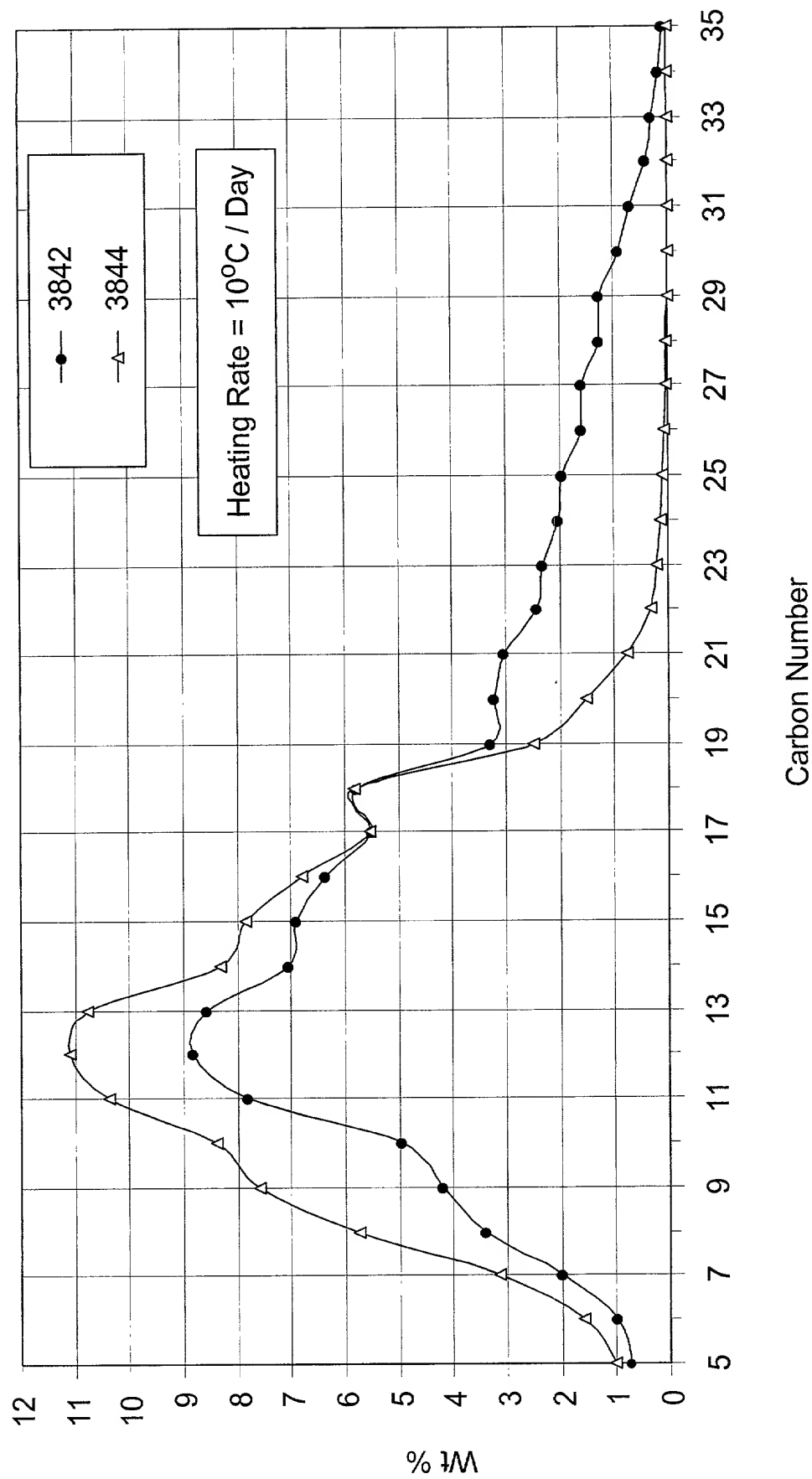


FIG. 104

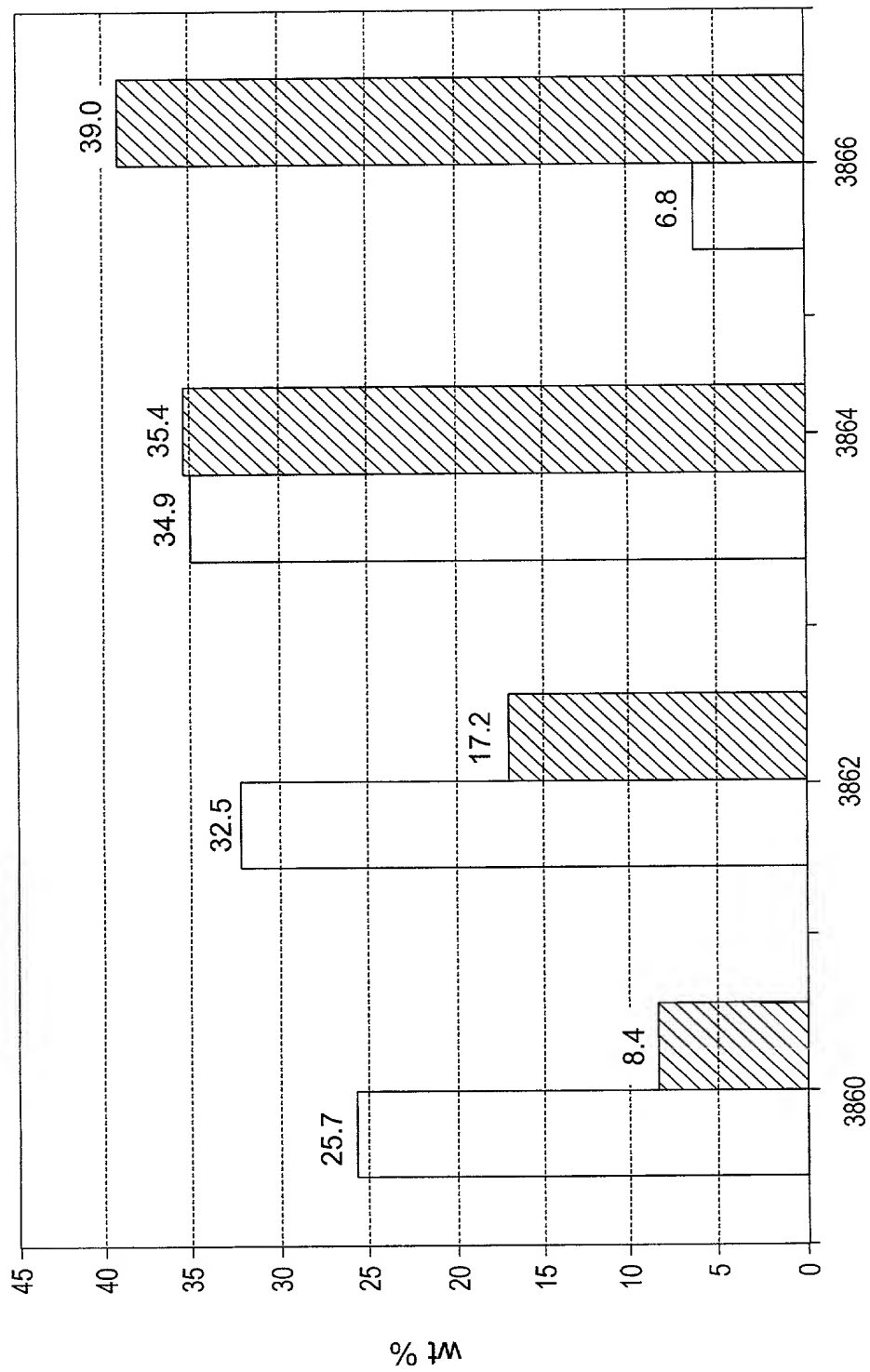


FIG. 105

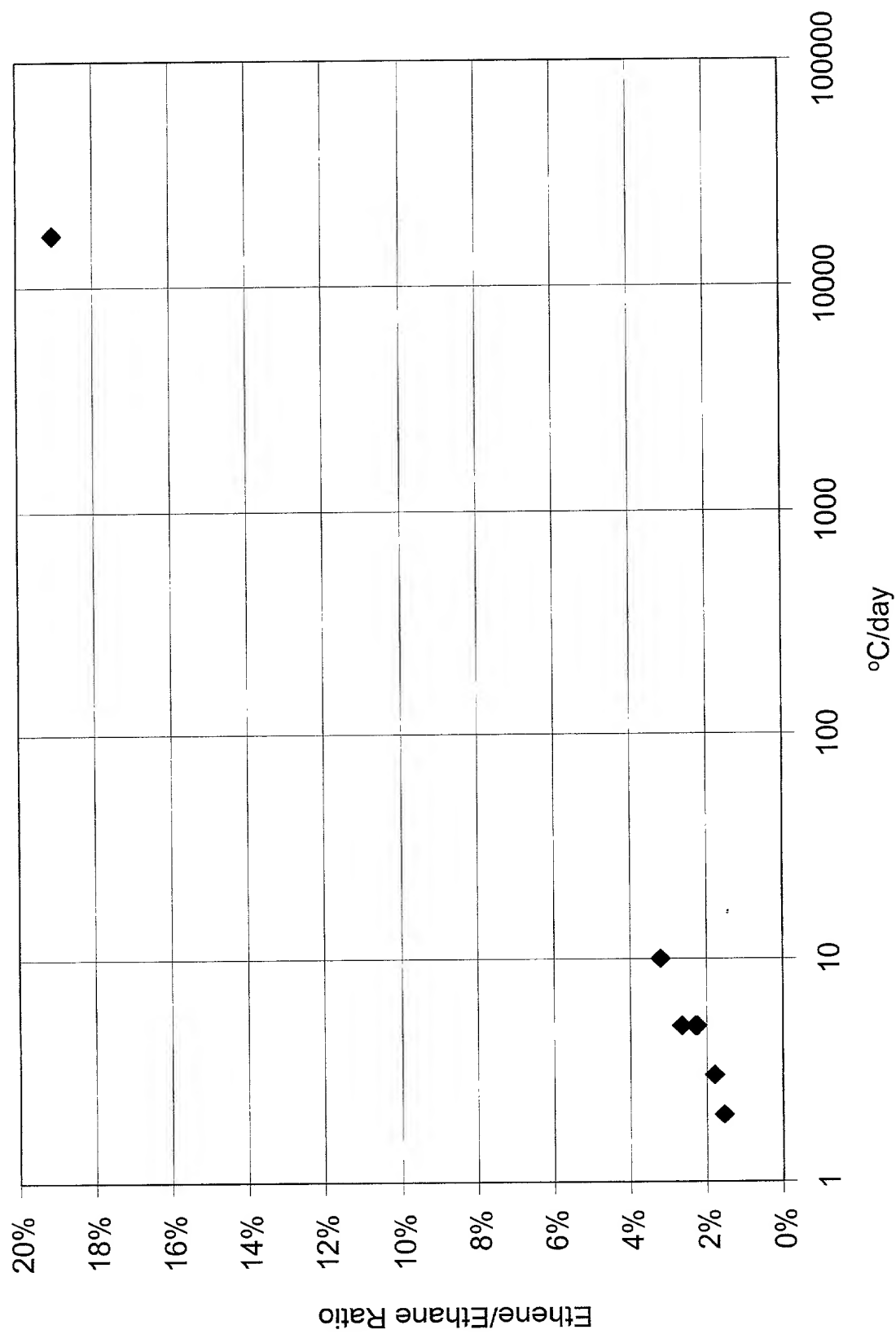


FIG. 106

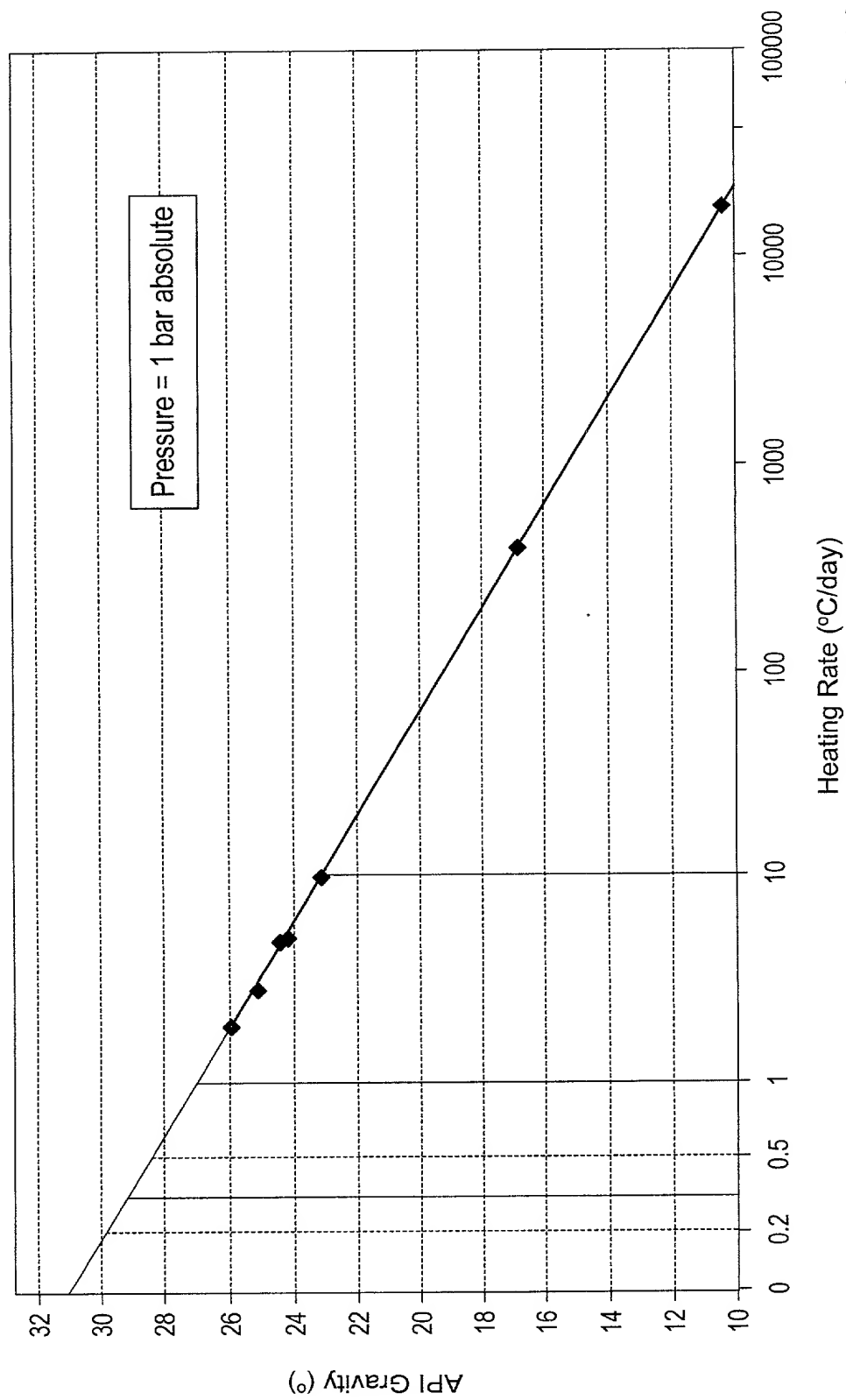


FIG. 107

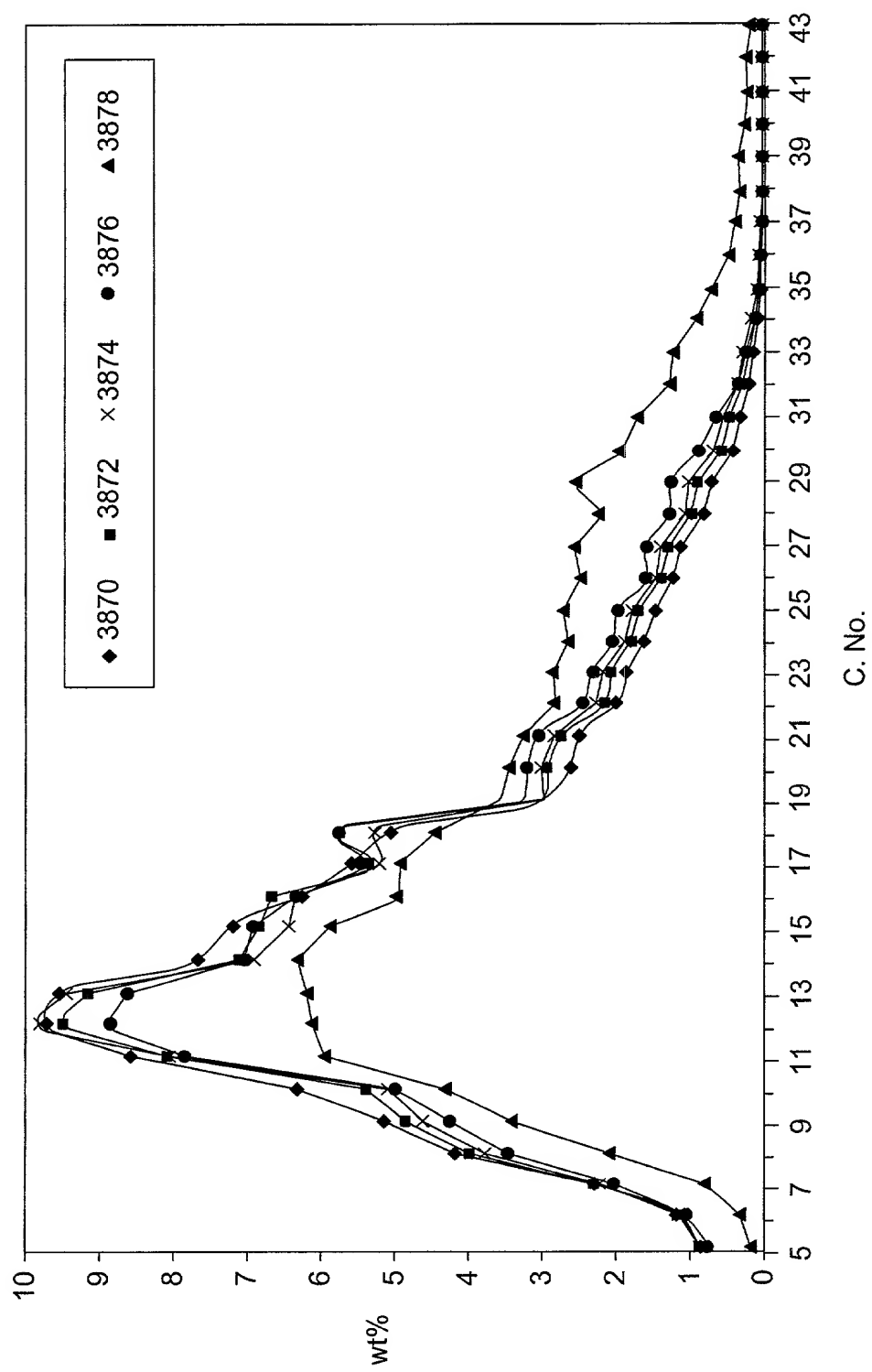


FIG. 108



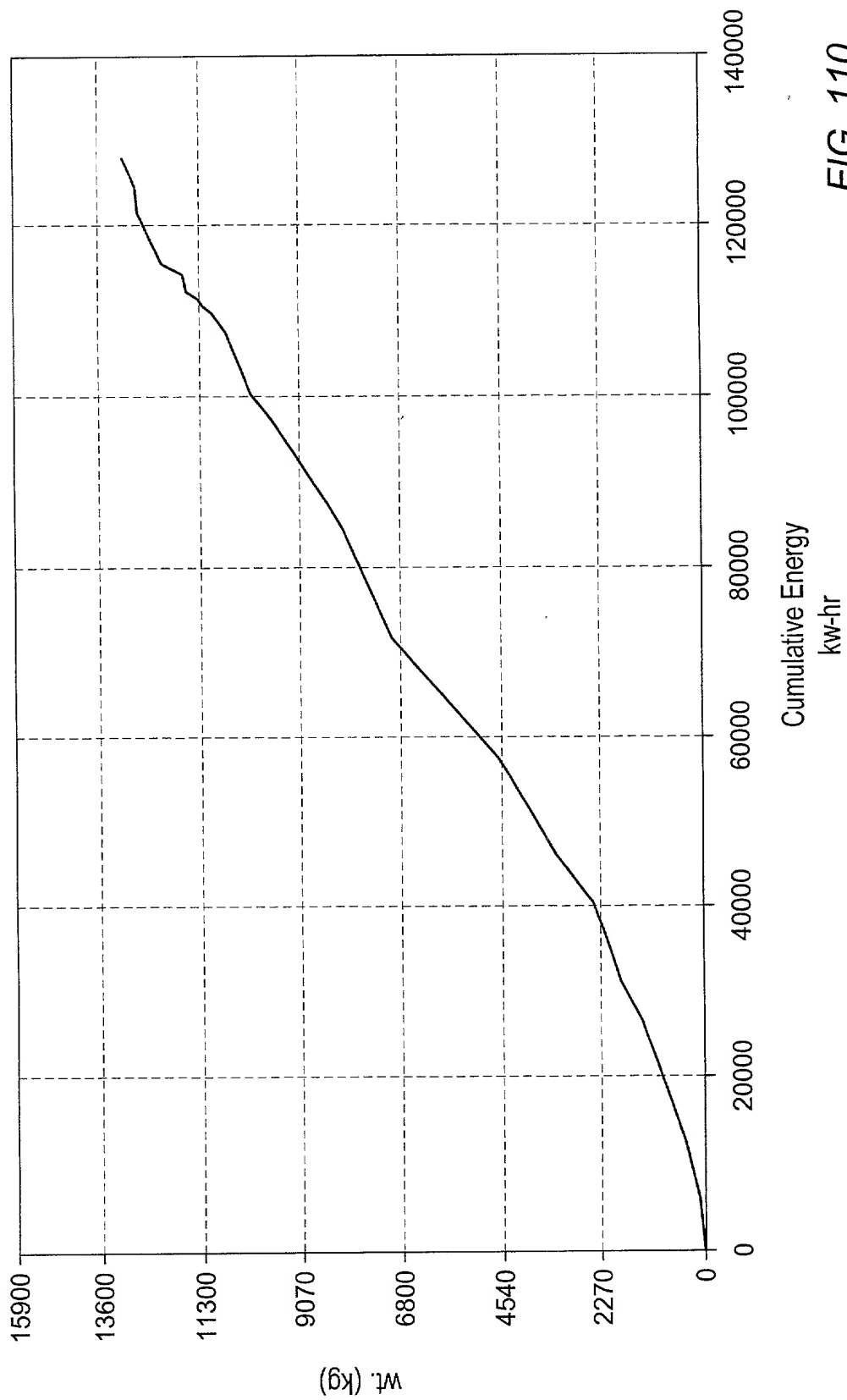


FIG. 110

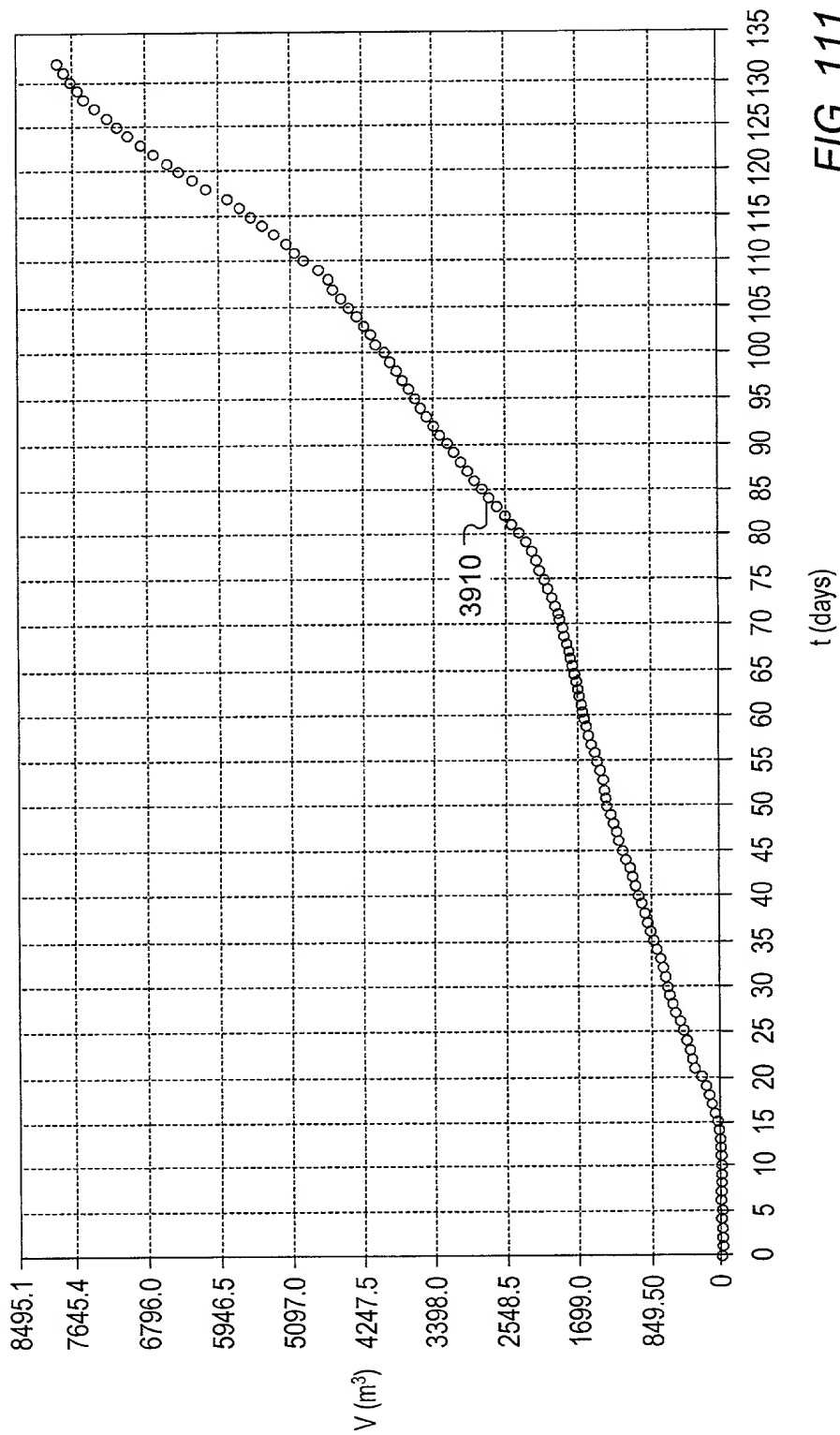


FIG. 111



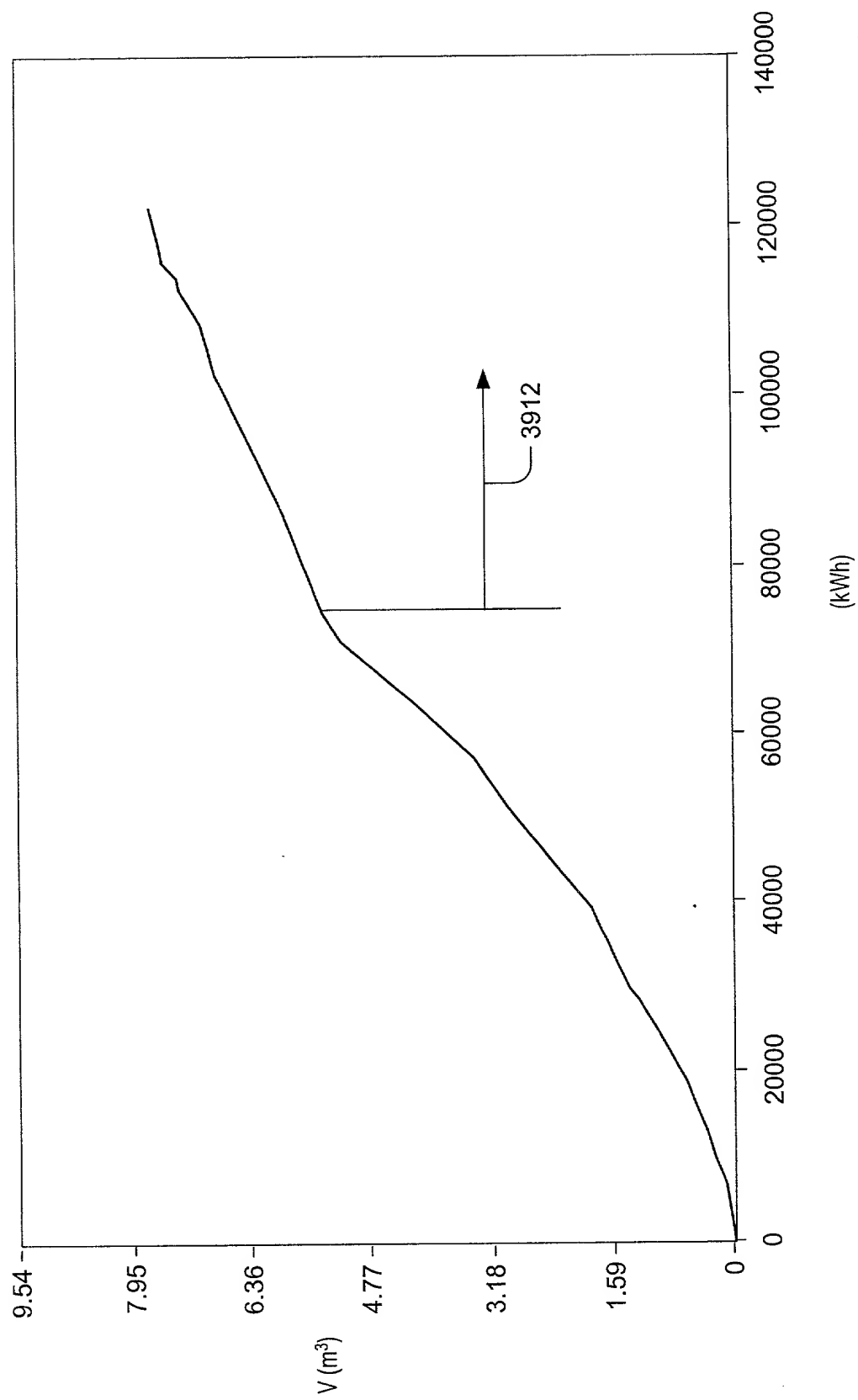


FIG. 112

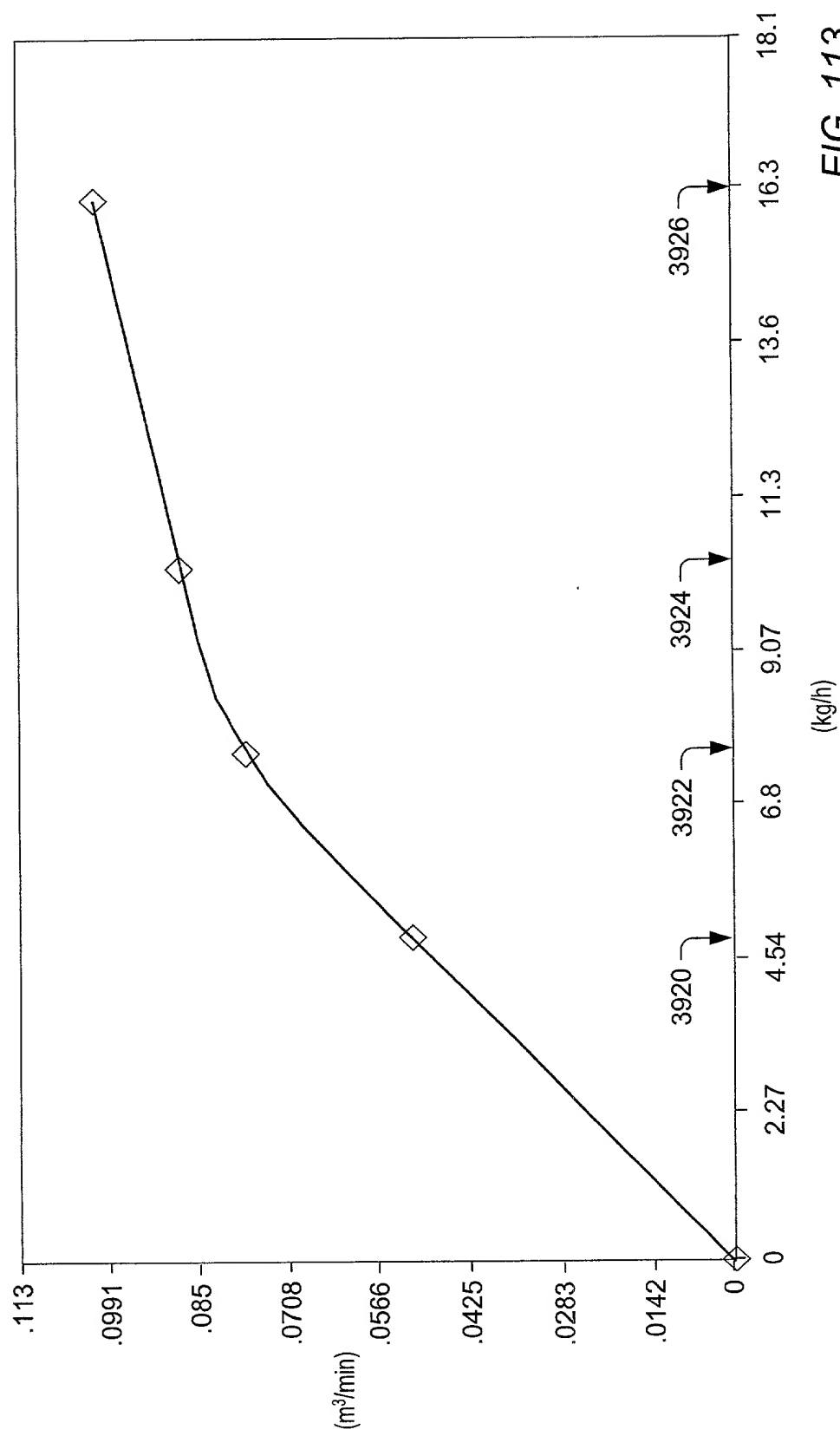


FIG. 113

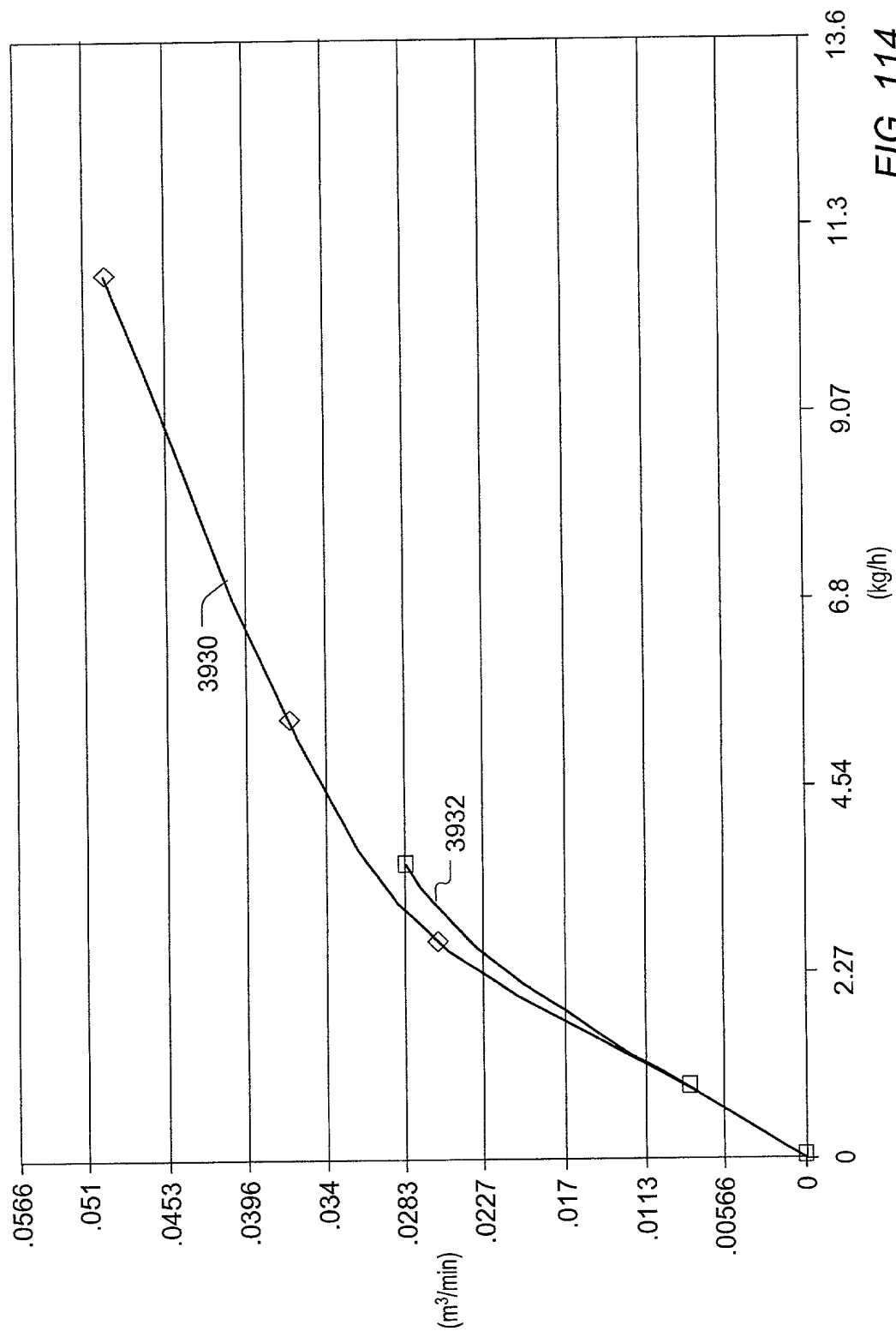


FIG. 114

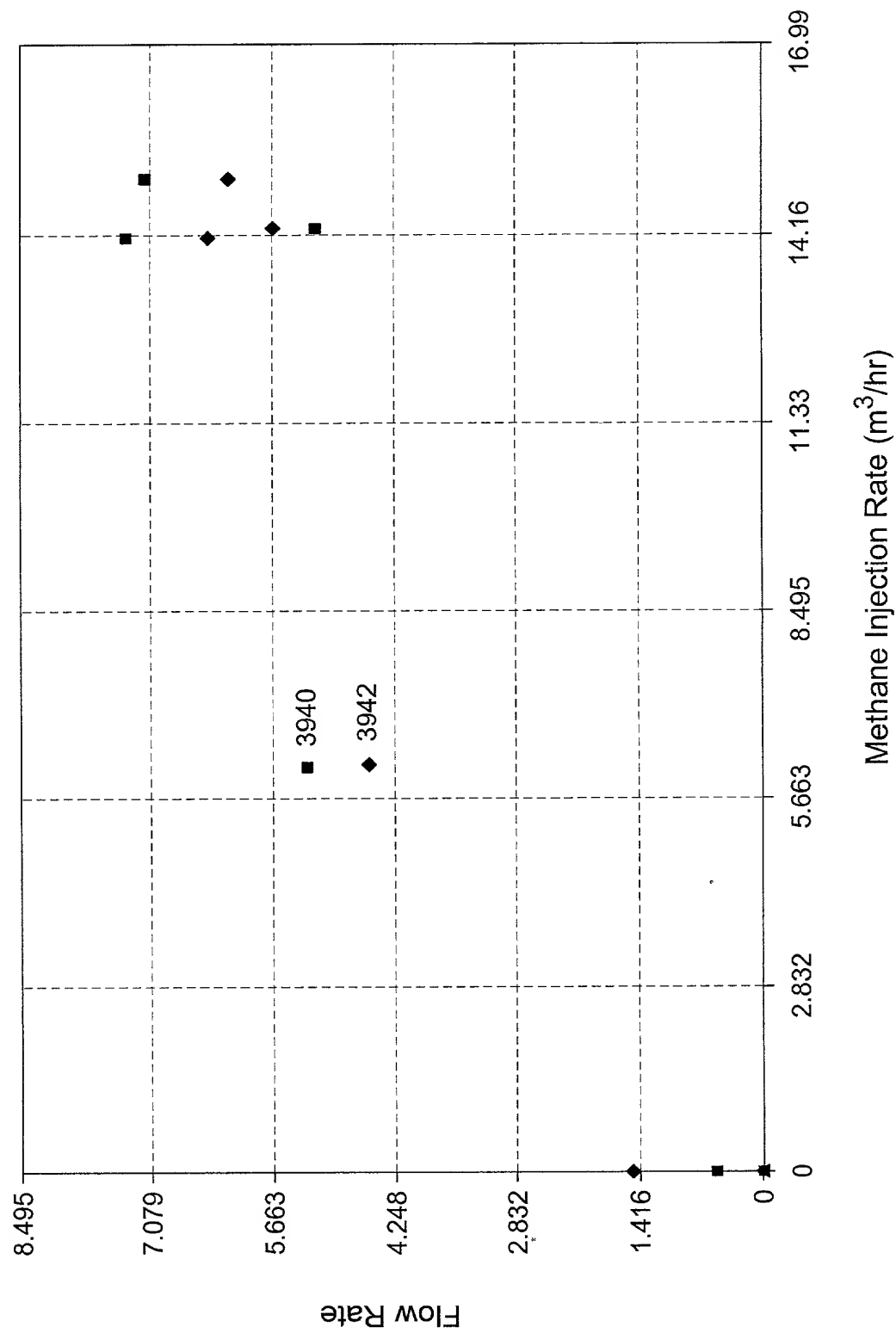


FIG. 115

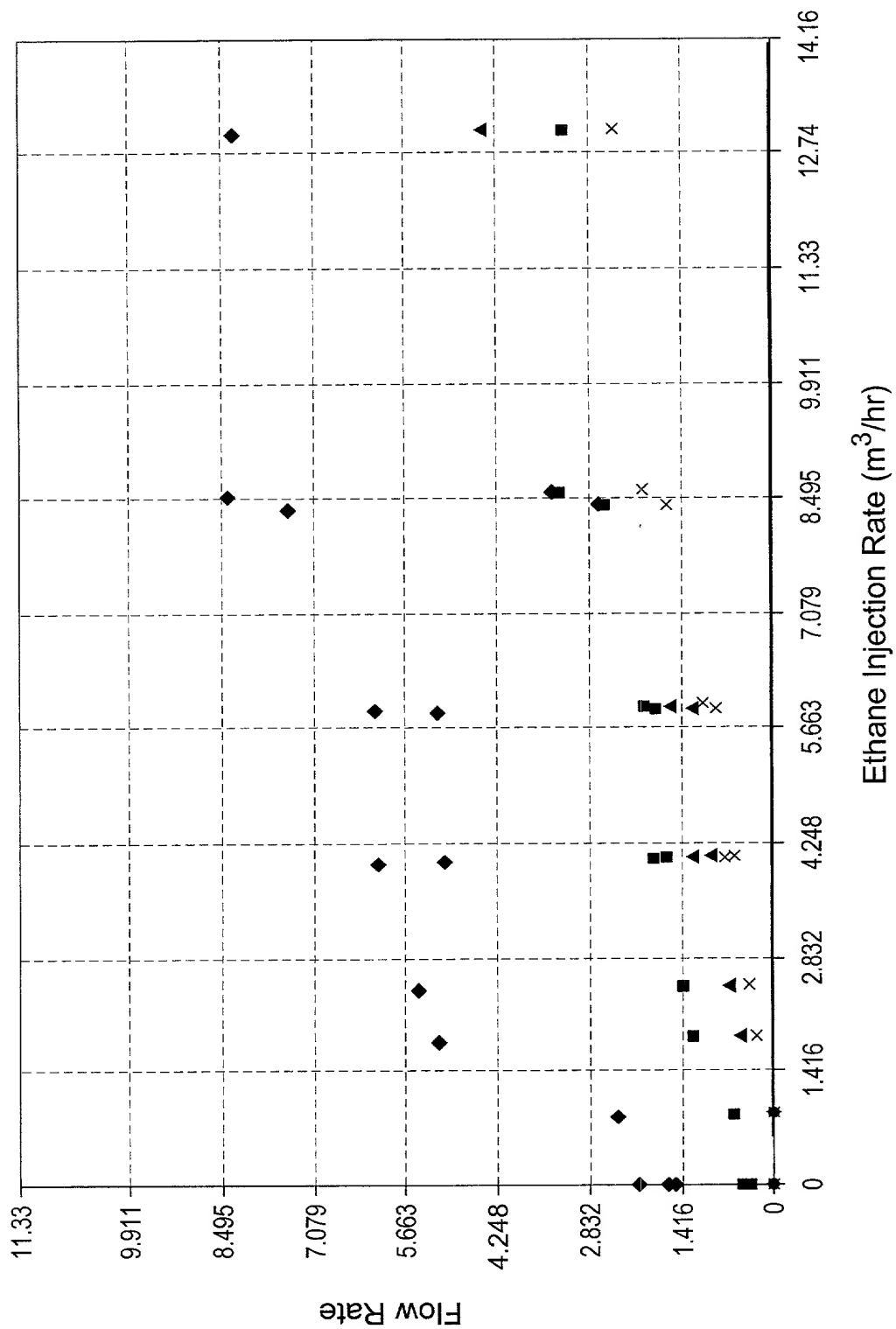


FIG. 116

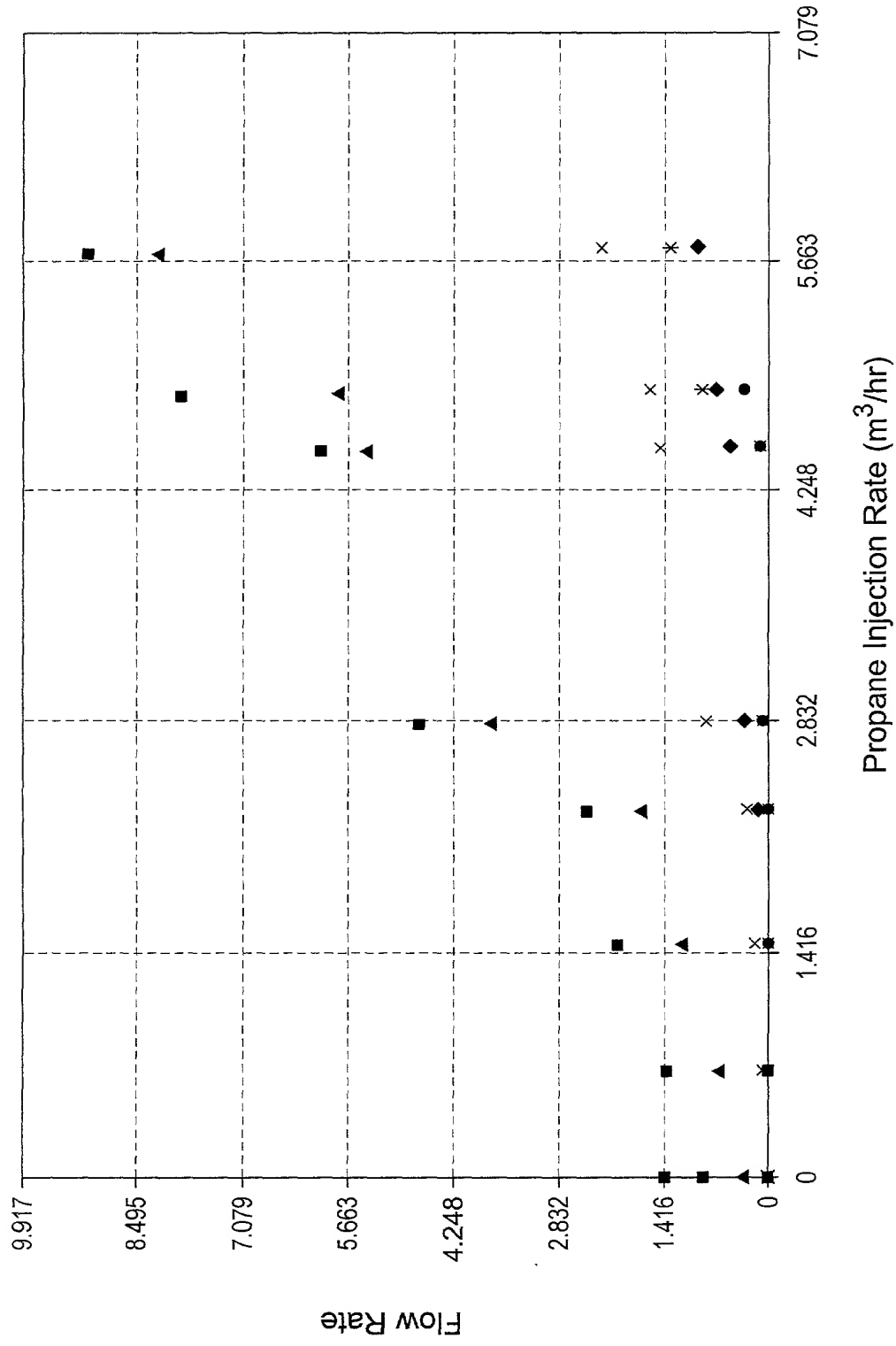


FIG. 117

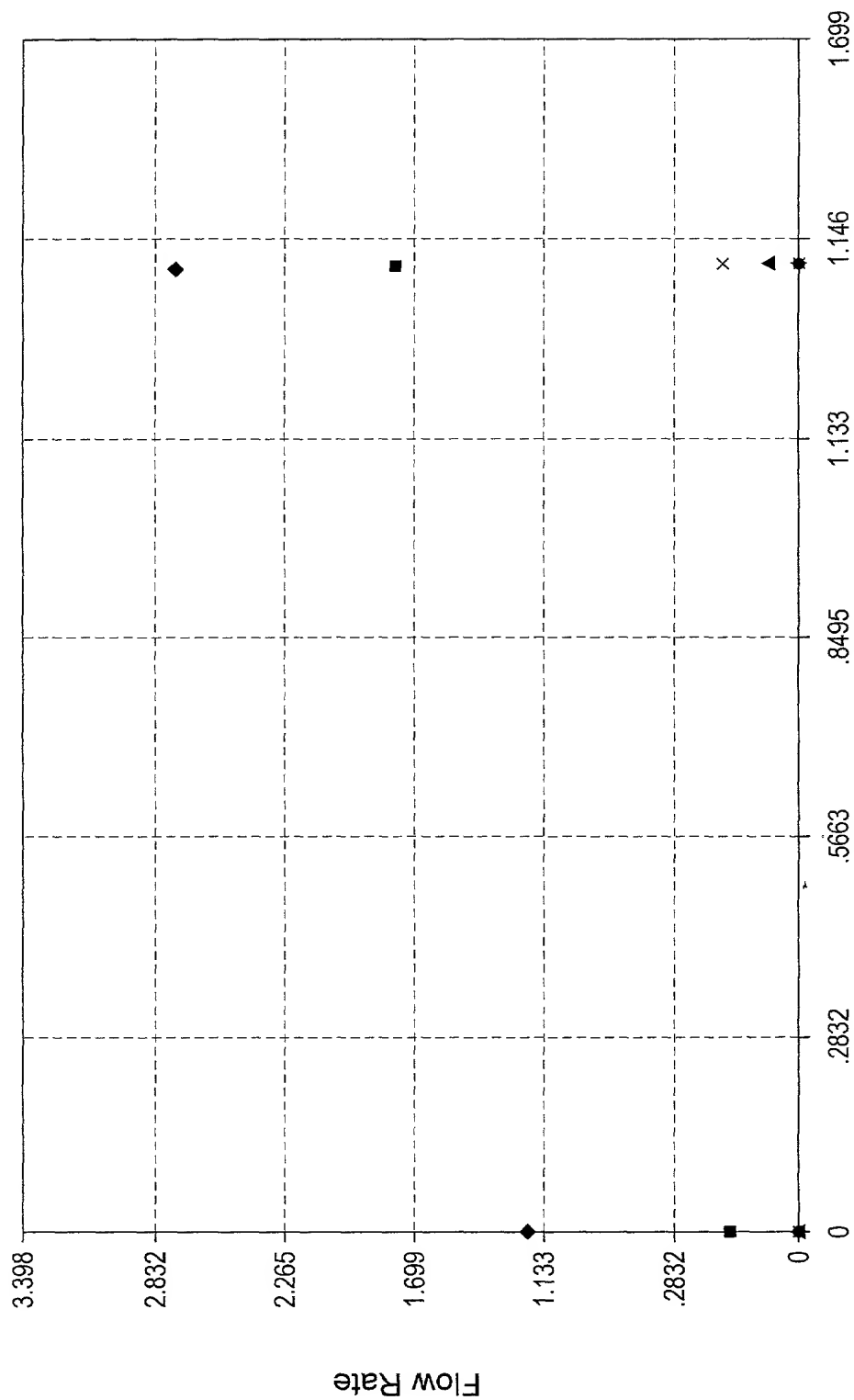


FIG. 118

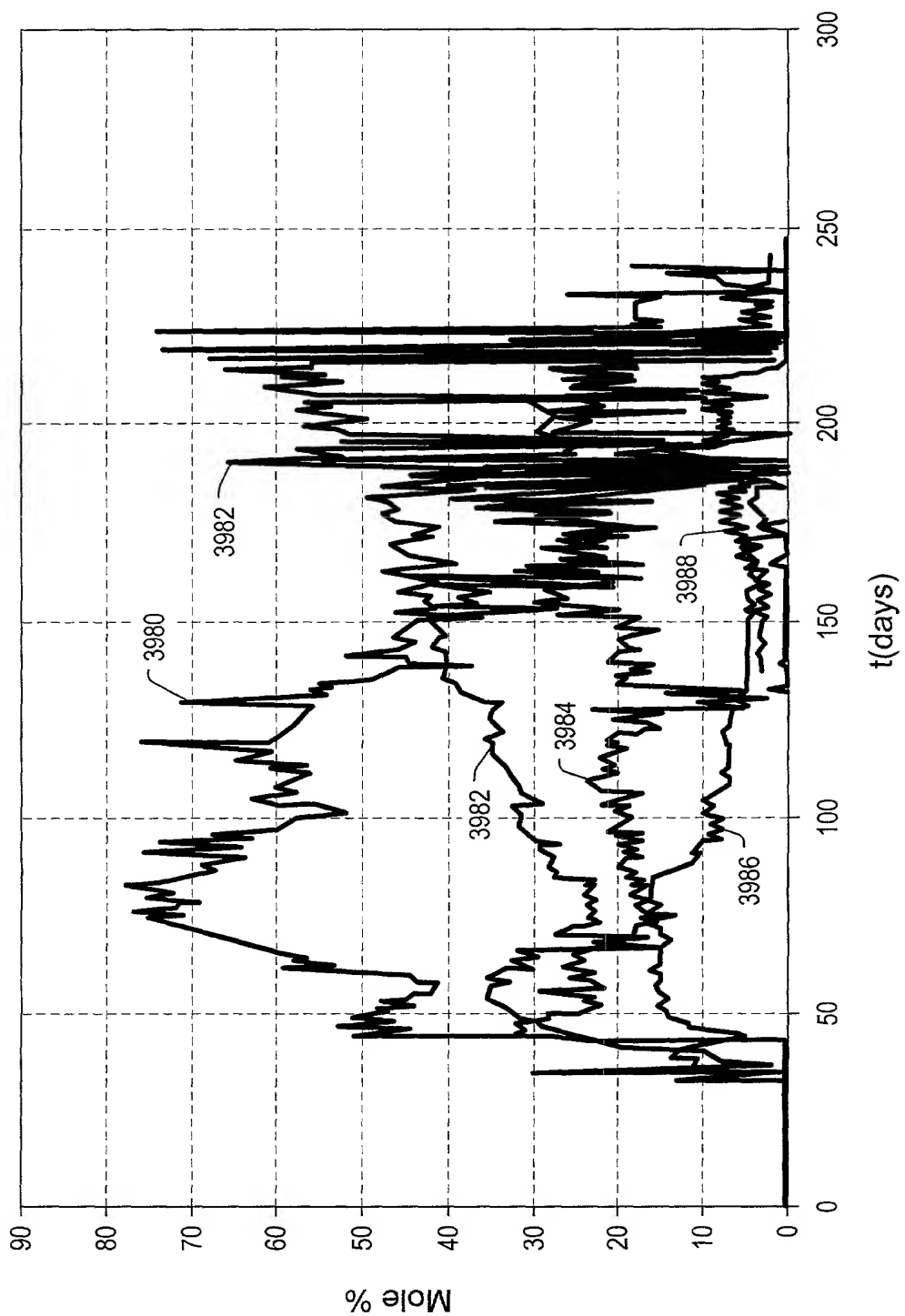


FIG. 119



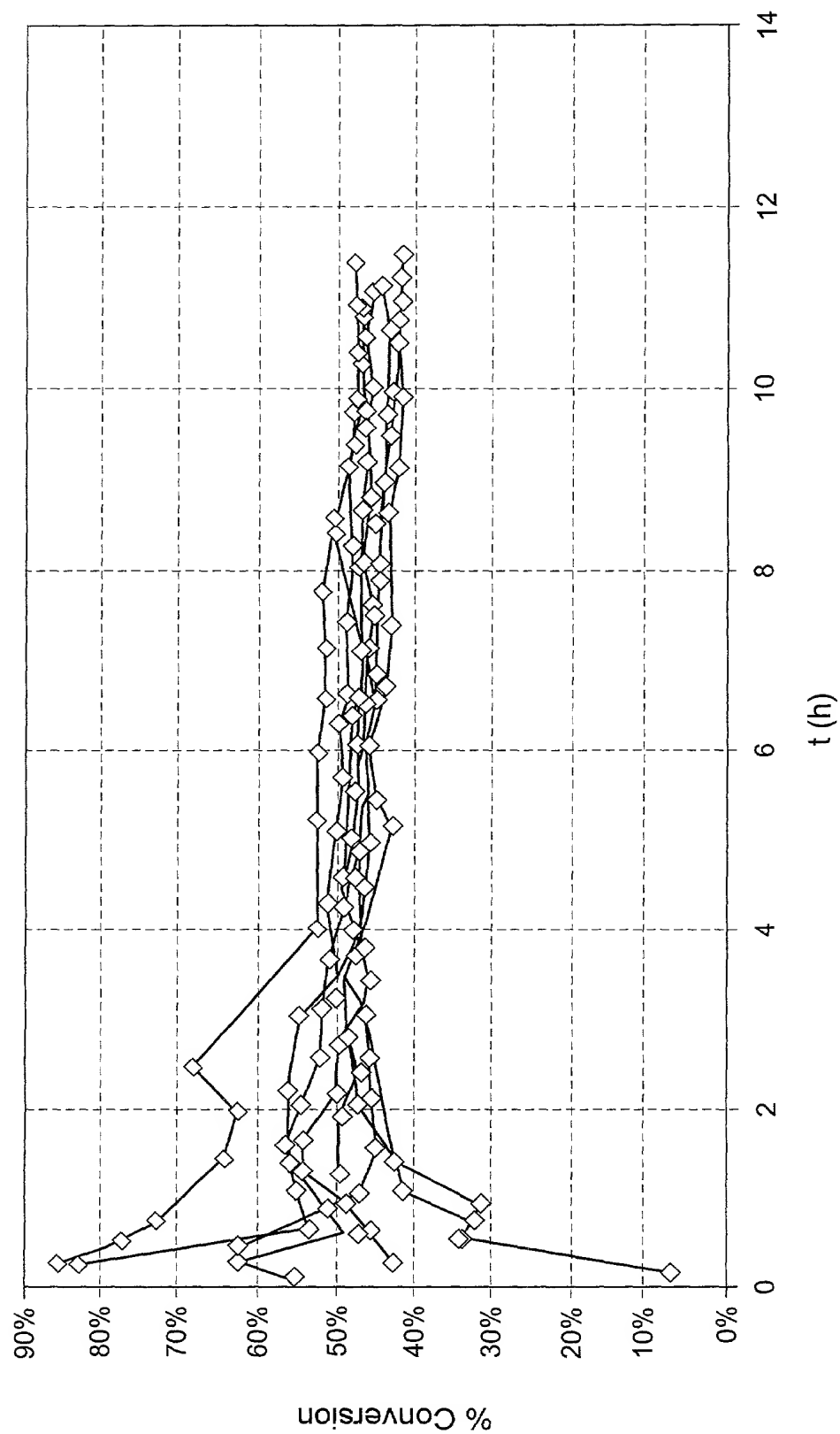


FIG. 120

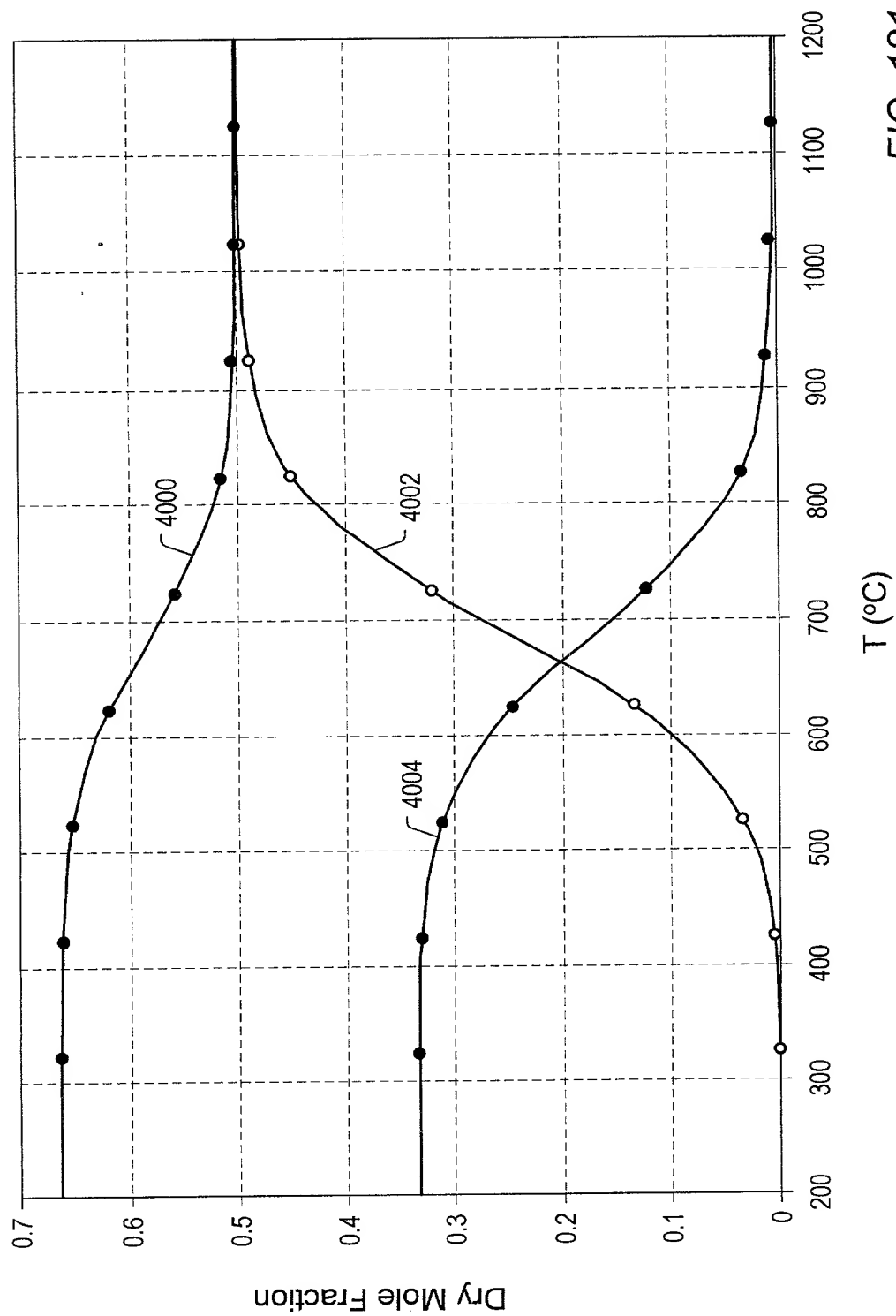


FIG. 121

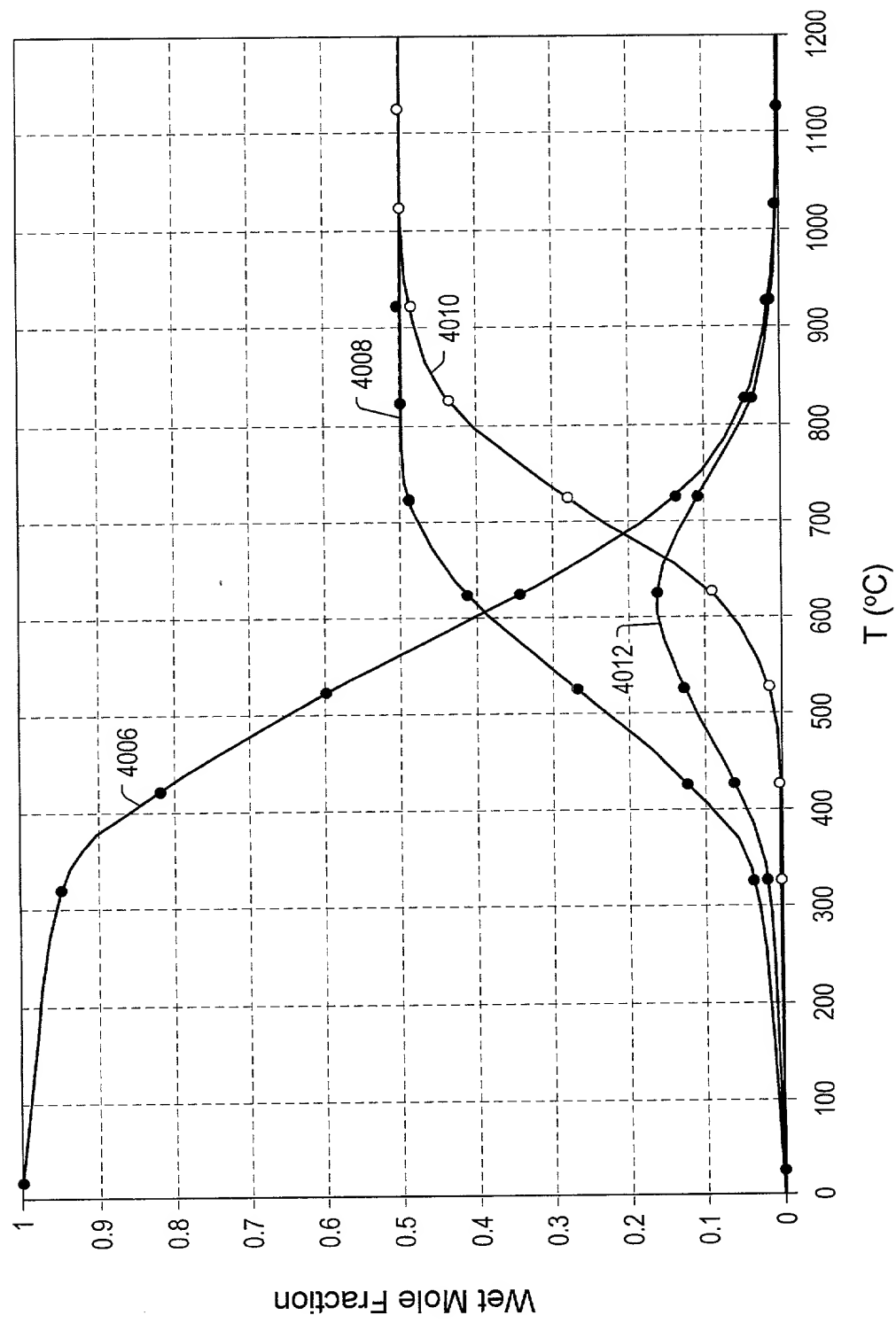
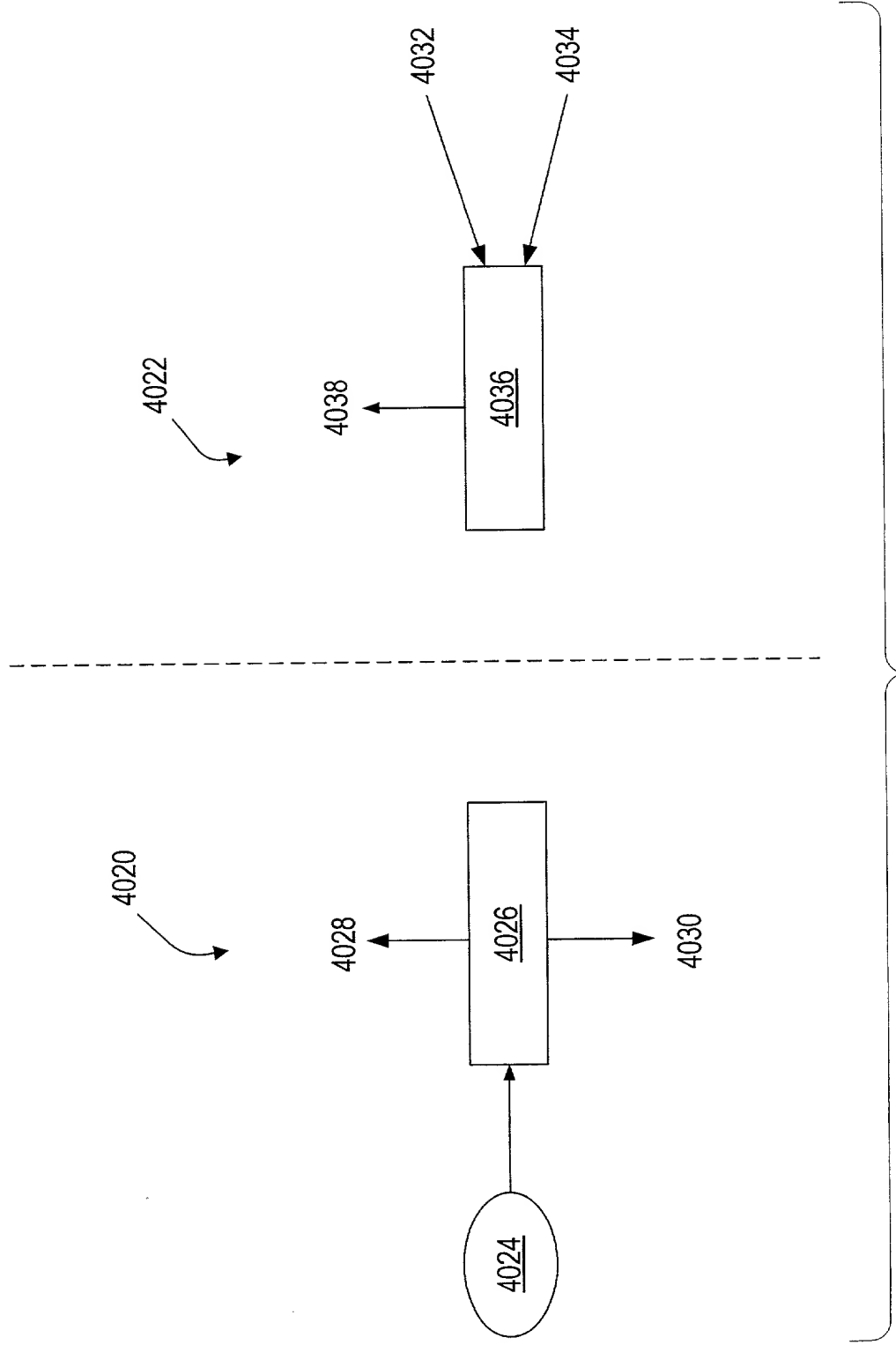


FIG. 122



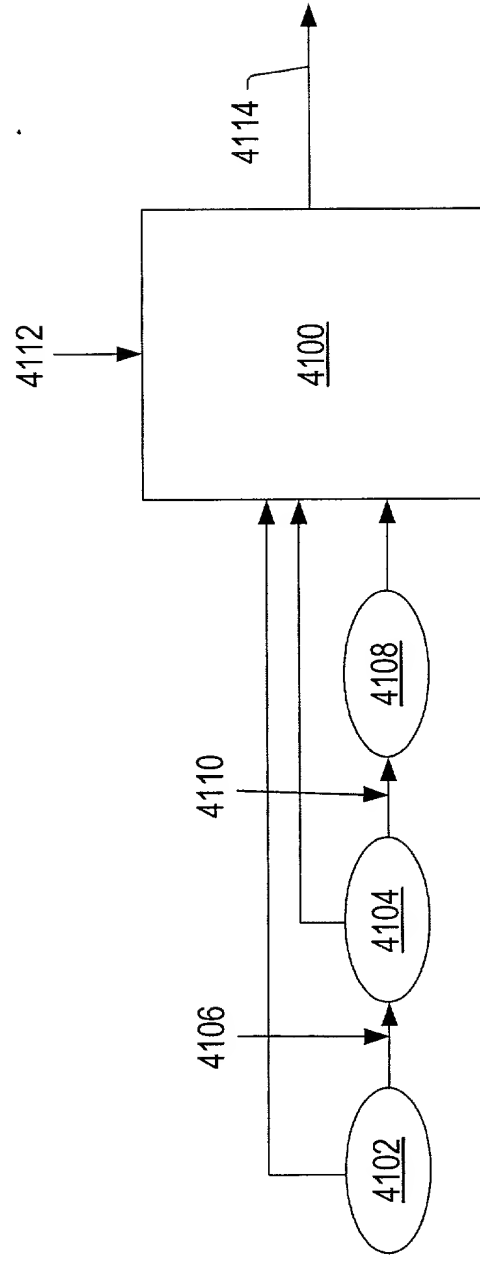


FIG. 124

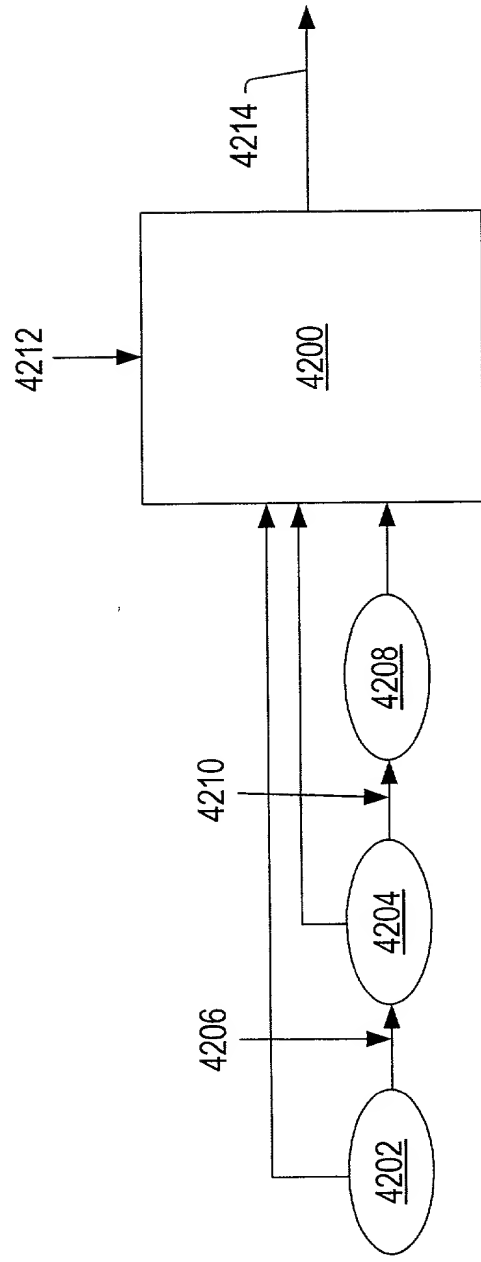


FIG. 125

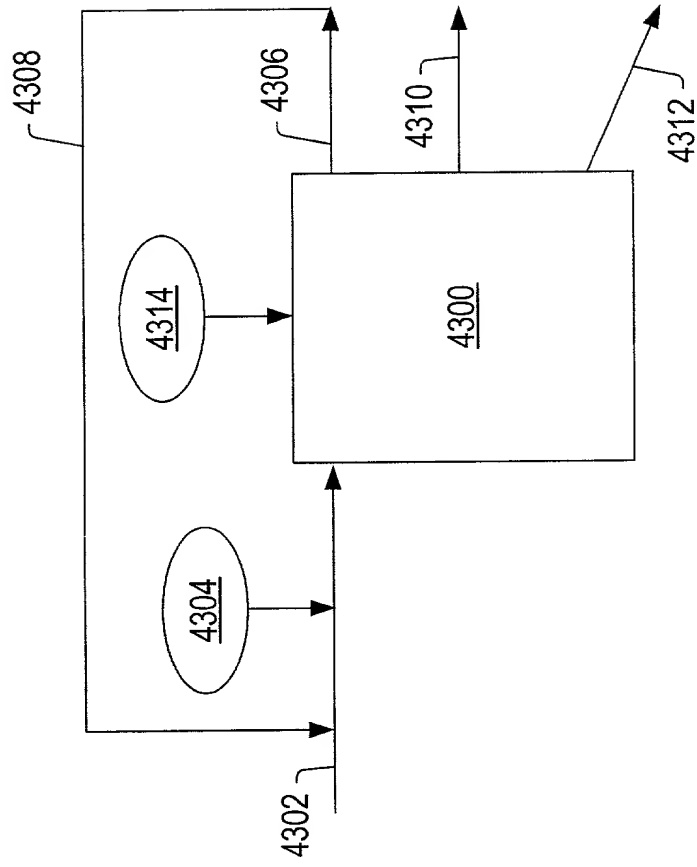


FIG. 126

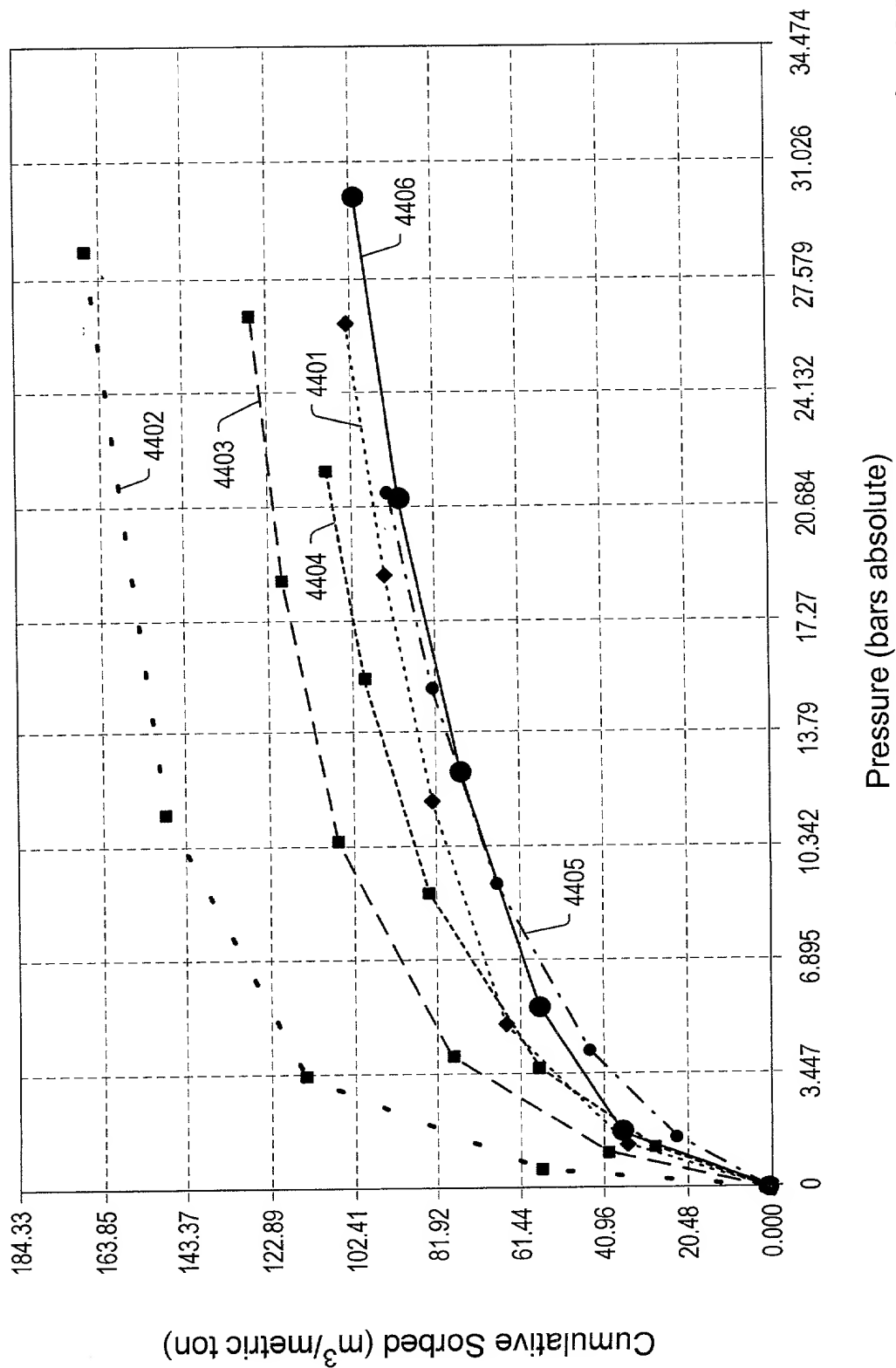


FIG. 127



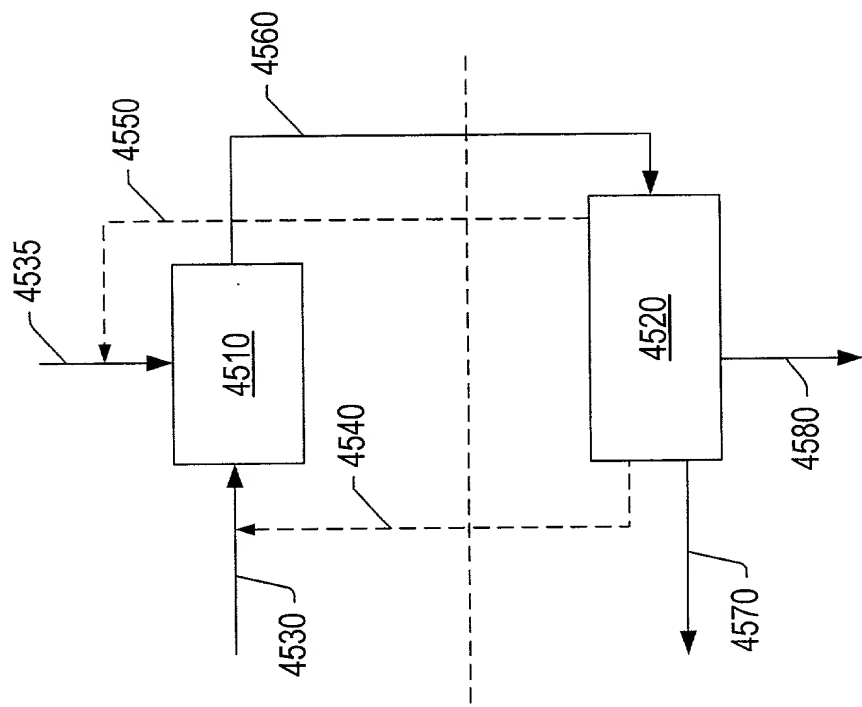


FIG. 128

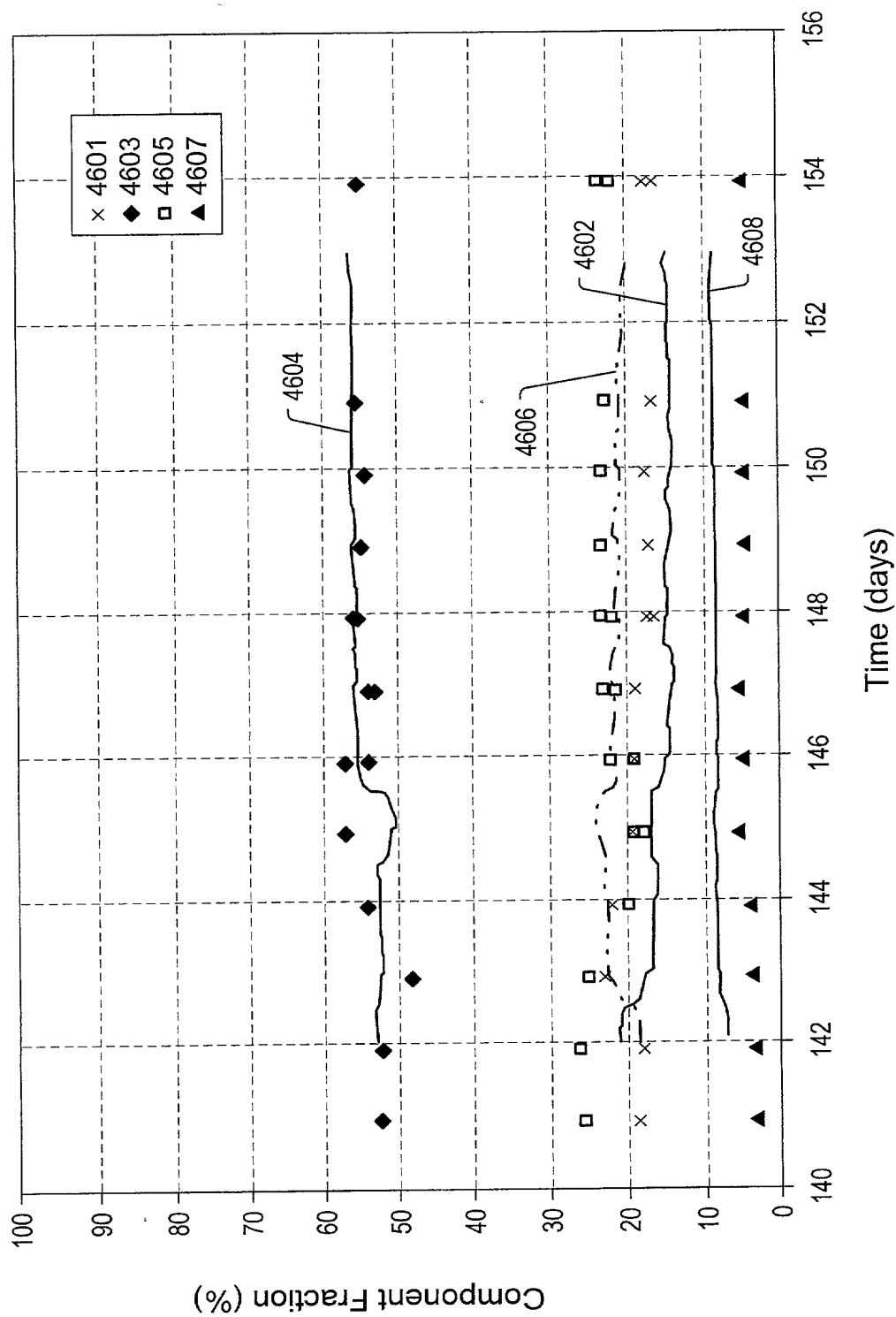


FIG. 129

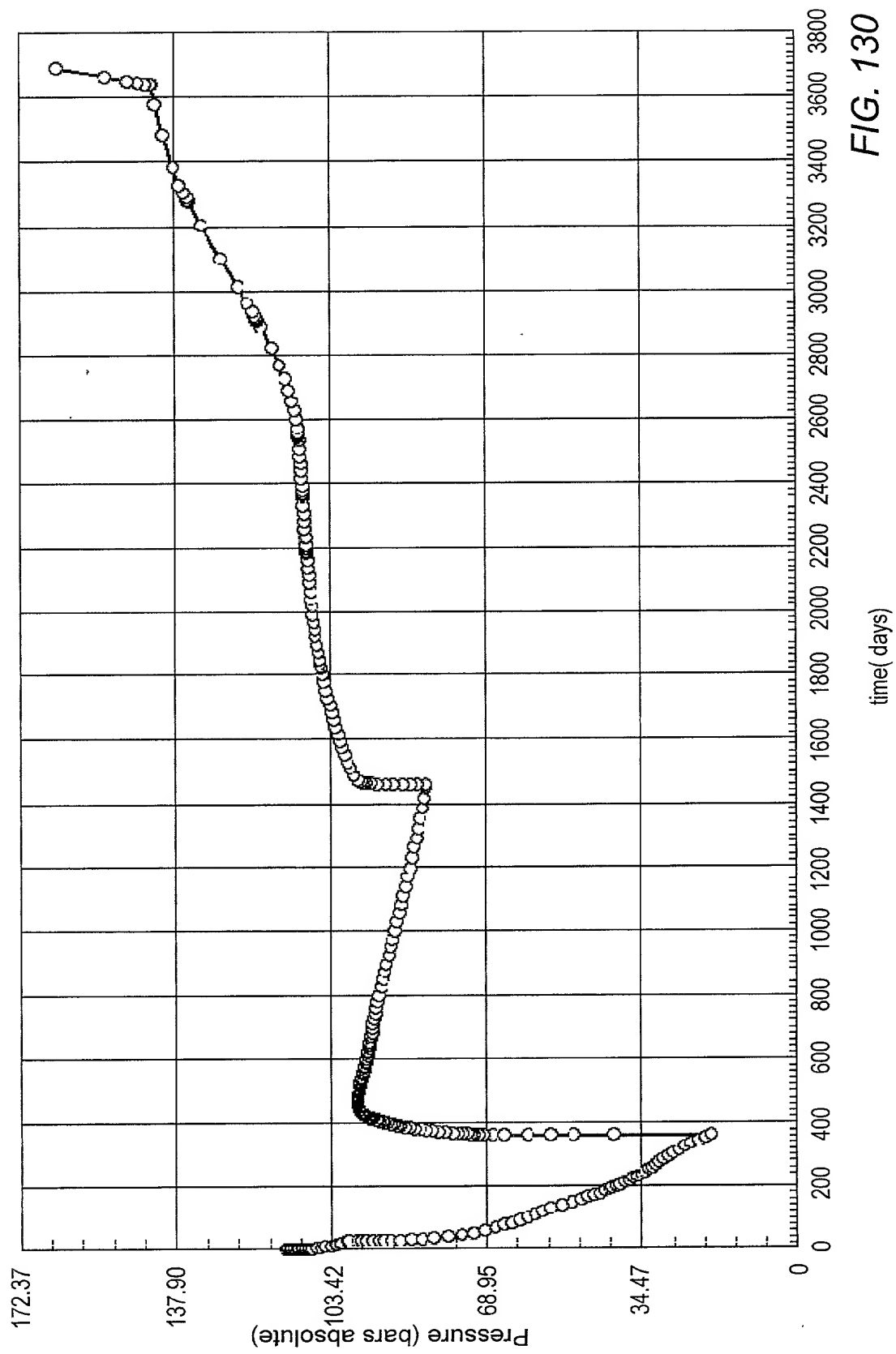


FIG. 130

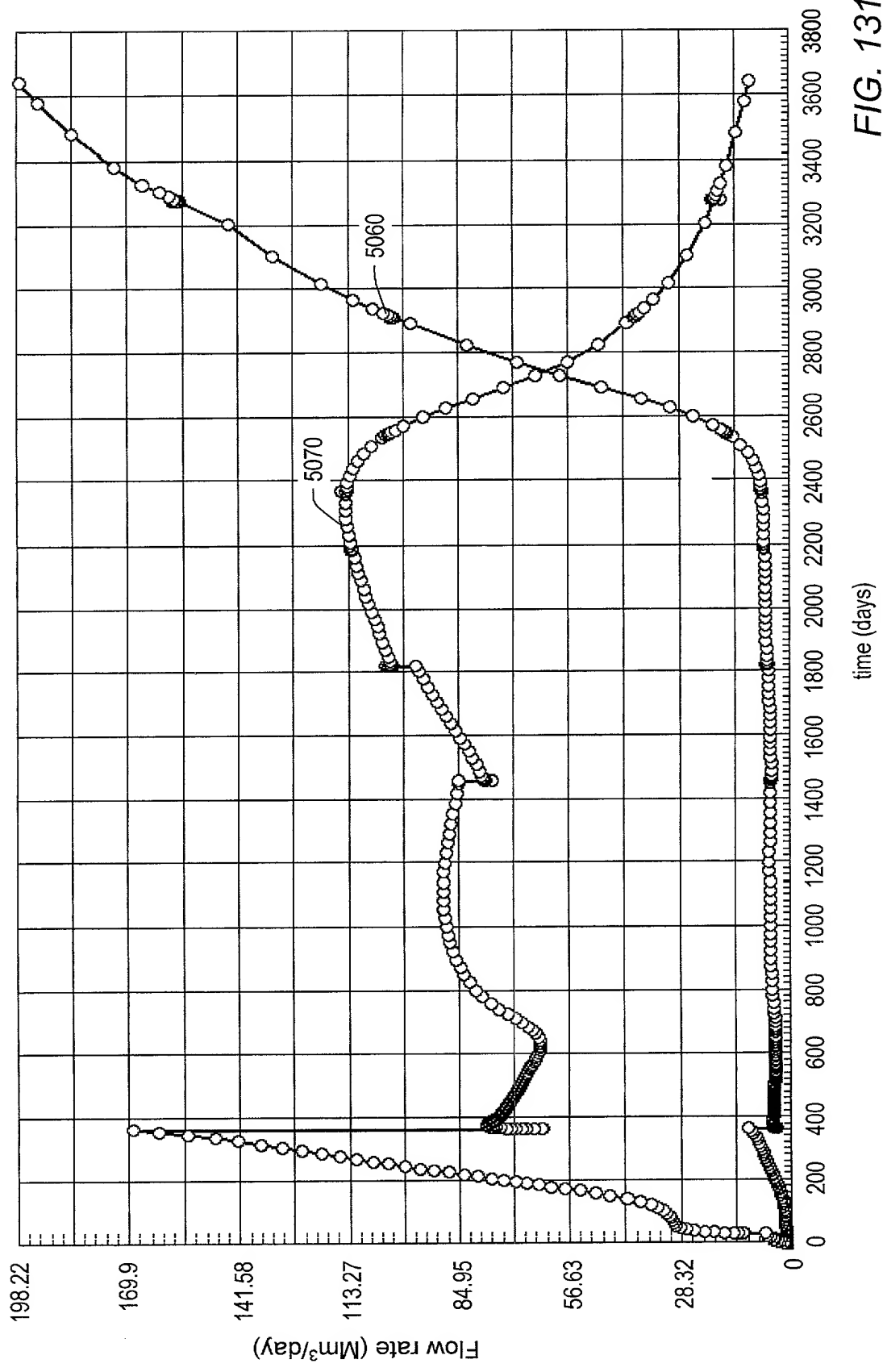


FIG. 131

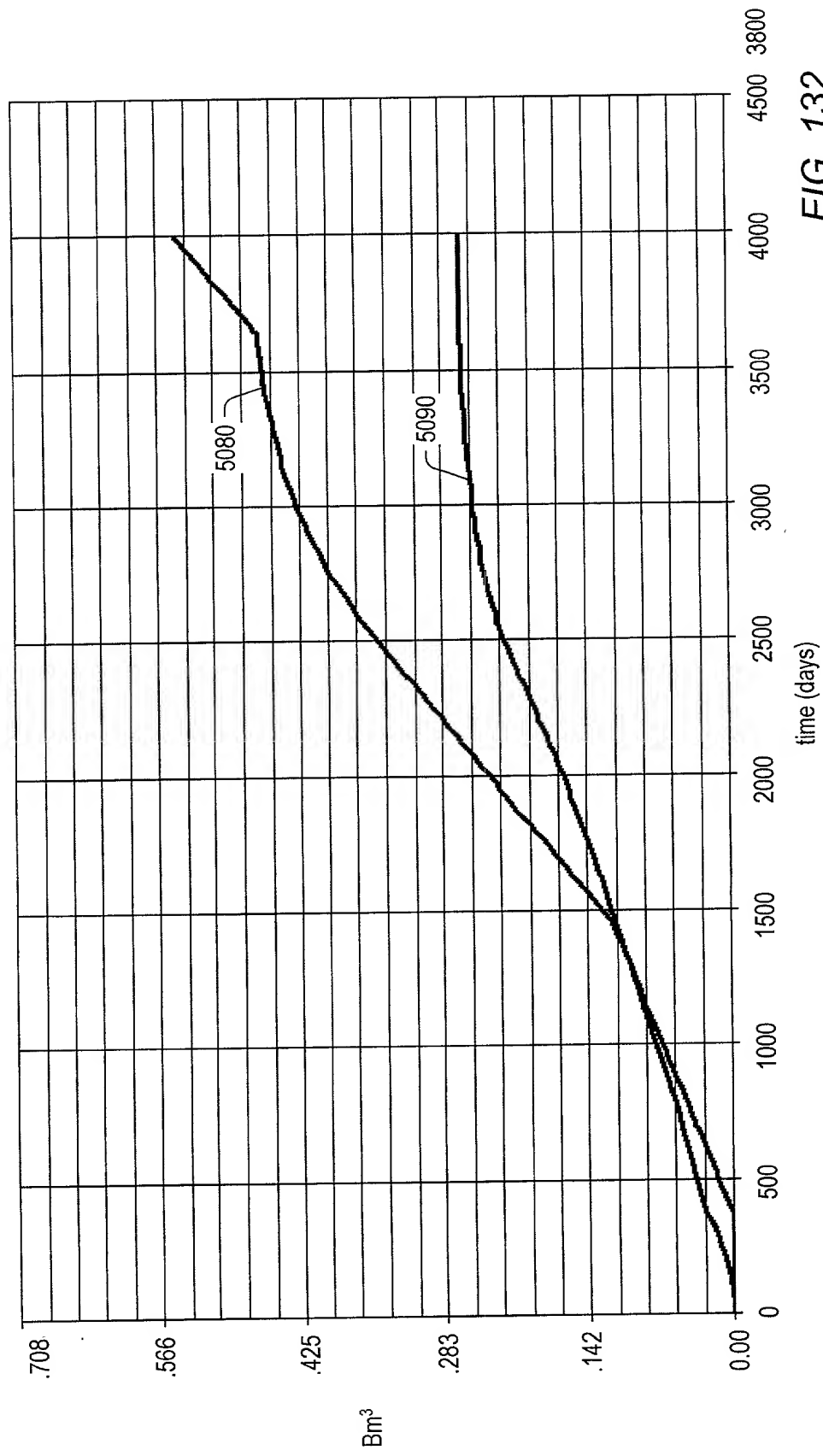
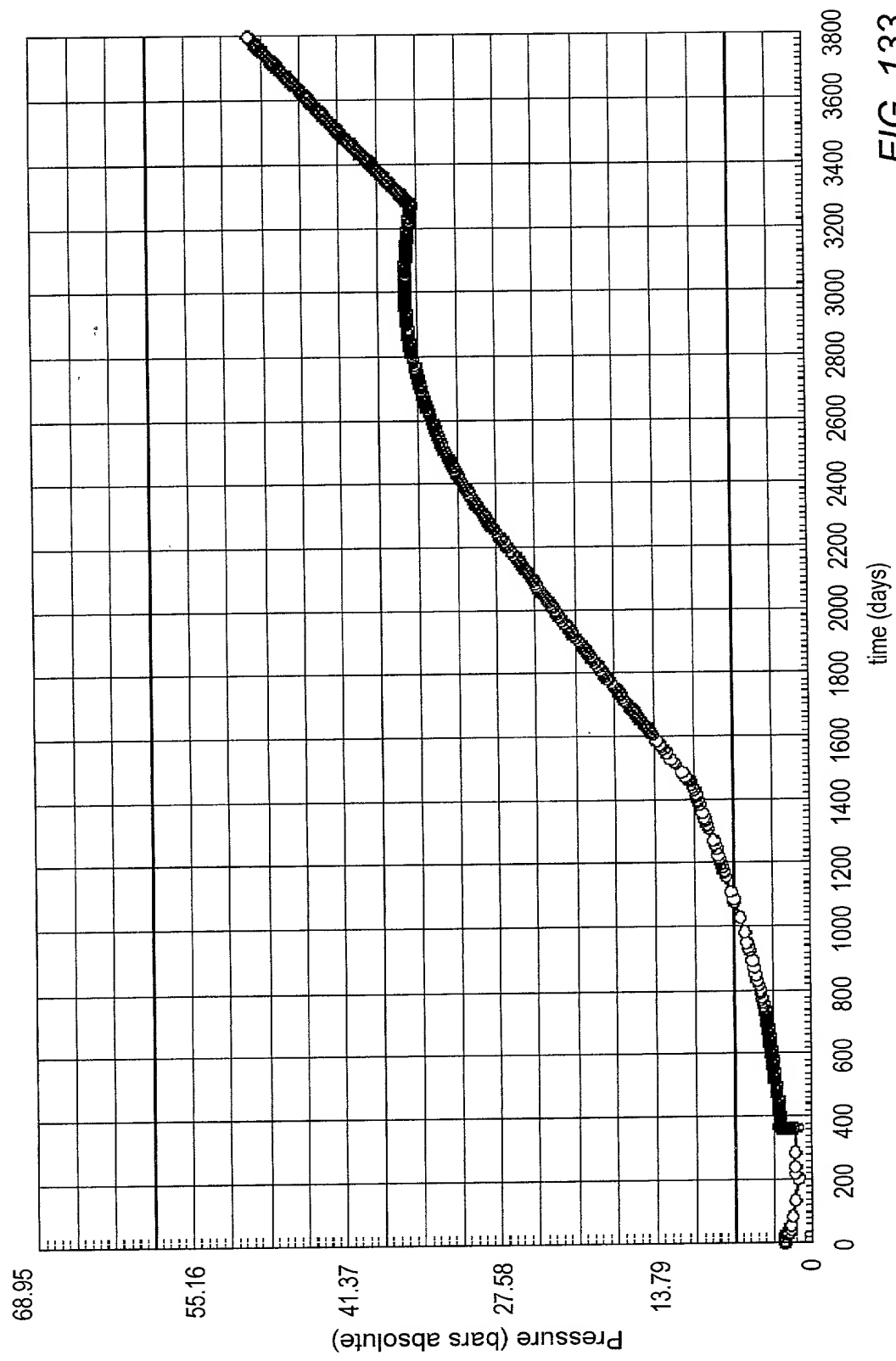


FIG. 132

Parameter	Value	Unit
Temperature	25.0	°C
Pressure	1.0	atm
Flow rate	1.0	L/min
Wavelength	254	nm
Scan rate	1.0	nm/min
Integration time	1.0	s
Resolution	0.5	nm
Slit width	1.0	mm
Detector	Photodiode array	
Software	ChemStation	
Column	Agilent Zorbax SB-C18	
Mobile phase	Water/MeOH	
Gradient	0-100% MeOH in 10 min	
Flow rate	1.0	mL/min
Injection volume	10	μL
Sample concentration	100	μg/mL
Calibration curve	$y = 0.0001x + 0.0001$	
R-squared value	0.9999	
Limit of detection	0.001	μg/mL
Limit of quantification	0.005	μg/mL
Recovery	100	%
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	%RSD
Accuracy	1.0	%RSD
Linearity	0.9999	
Robustness	1.0	%RSD
Specificity	1.0	%RSD
Interference	1.0	%RSD
Matrix effect	1.0	%RSD
Stability	1.0	%RSD
Precision	1.0	



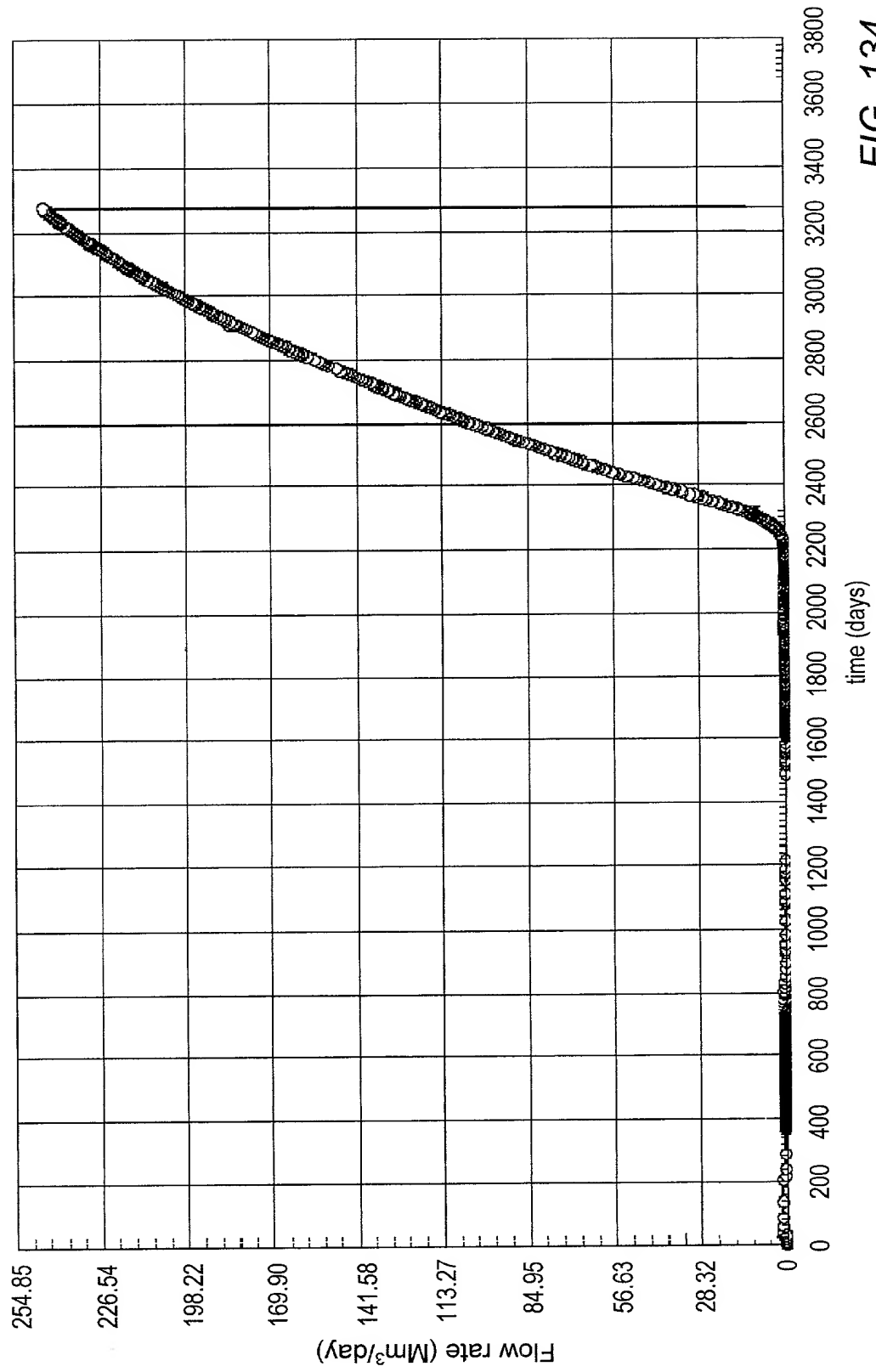


FIG. 134

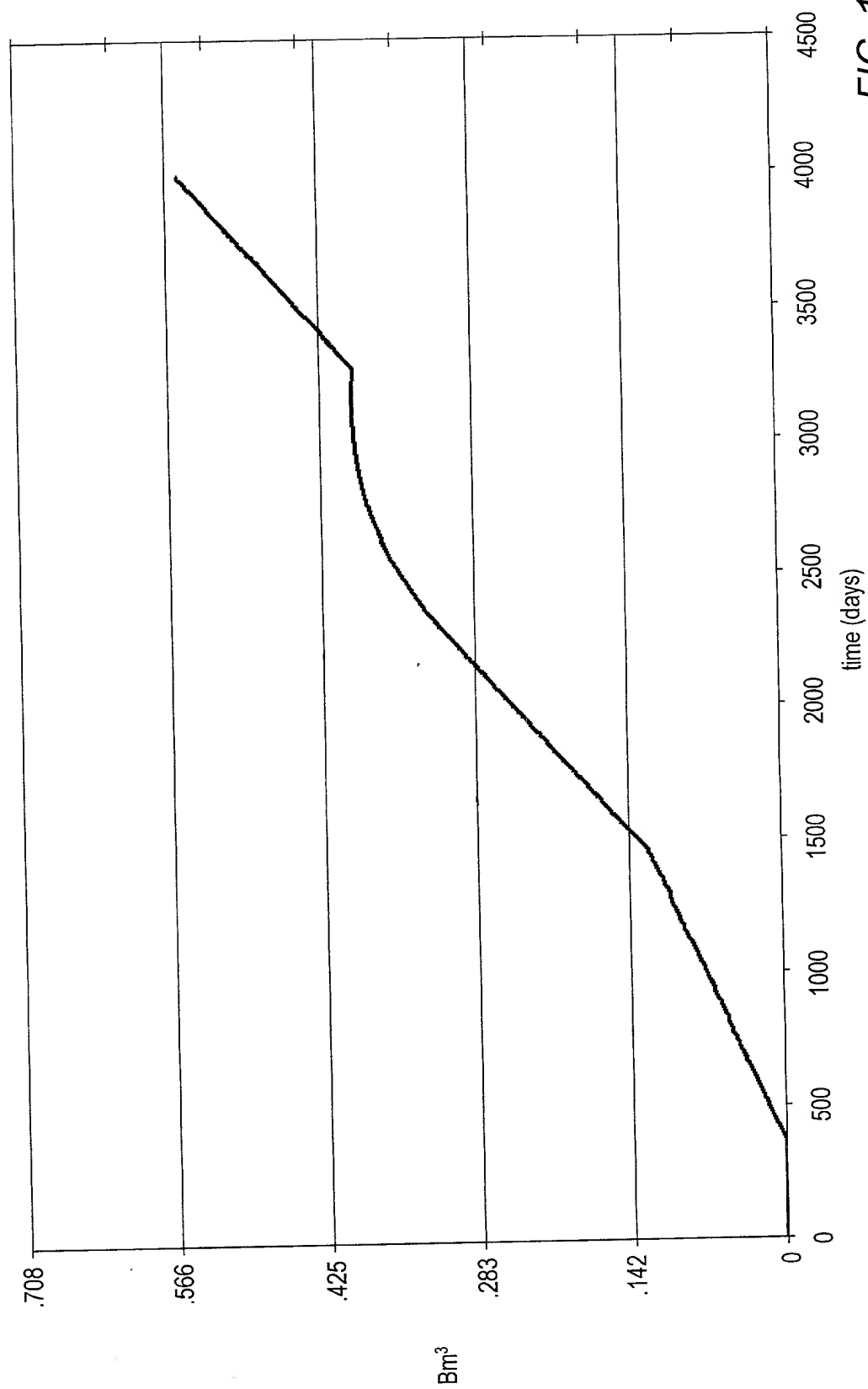


FIG. 135